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Sudden unexpected death in infancy and childhood

Multi-agency guidelines for care and investigation

The report of a working group convened by The Royal College of Pathologists
and endorsed by The Royal College of Paediatrics and Child Health

Chair: The Baroness Helena Kennedy QC

2nd edition, November 2016

This 2016 report is an update of the 2004 report of the same name, which initially received input from over 30 stakeholder organisations. This 2016 edition was extensively reviewed and updated by the expert Working Group listed in Appendix 9.

In accordance with the publications policy of The Royal College of Pathologists, the document was open for consultation from 17 June to 11 July 2016 with College members and other stakeholders. Twenty-five items of feedback from groups and individuals were received. The Working Group considered the feedback and amended the document as appropriate. Please email publishing@rcpath.org if you wish to see the responses and comments.

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Preface

Much has changed since the first edition of this document was published in 2004. Many of the recommendations of that report have been implemented although some remain a challenge. Multi-professional and multi-agency working has become the norm, new roles have been introduced, new national guidance has been produced and much research has been carried out.

These guidelines have been produced with input from all professional groups involved in the investigation of sudden unexpected death in infancy and childhood, and are based on the best current international research. We recognise that additional work is needed in this area and hope that this document will stimulate discussion and further research.

We are grateful to all the contributors, particularly Baroness Helena Kennedy who chaired the Working Group and Professor Neil Sebire who was the lead author.



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Overview

The original intercollegiate Report into sudden infant death followed a series of miscarriages of justice. In 2003, three high-profile criminal cases involving the prosecution of mothers for causing the deaths of their babies created public consternation.

The common feature in all three cases was that here were mothers who had suffered the loss of more than one infant. The repetition of sudden deaths without explanation raised suspicion amongst professionals and, in the absence of any eye-witness evidence of harmful conduct, the police investigations relied upon medical expertise, particularly that of paediatricians and pathologists. That evidence, when placed under careful scrutiny, raised serious concerns about the role of the expert witness in the courts, about the standard of proof and the quality of evidence, and about the procedures adopted for the investigation of sudden unexpected deaths of children.

Under the auspices of The Royal College of Pathologists and The Royal College of Paediatrics and Child Health, a Working Party was established that I had the privilege of chairing. An important starting point was the acknowledgement that in the vast majority of cases where babies suddenly die, nothing unlawful has taken place. Human beings are four times as likely to die in the first year of life from both natural and unnatural causes than at any other time.

Parents suffering a terrible tragedy need sensitive support to help deal with their loss. It is every family's right to have their baby's death properly investigated. Families desperately want to know what happened, how the event could have occurred, what the cause of death was and whether it could have been prevented. This is important in terms of grieving but is also relevant to a family's high anxiety about future pregnancies and may identify some hidden underlying cause, such as a genetic problem. And if there happens to be another sudden infant death in the family, carefully conducted investigations of an earlier death also help prevent miscarriages of justice.

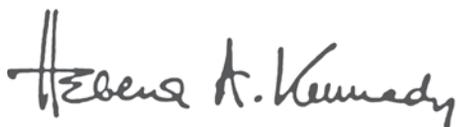
The Working Party included a very experienced group of people with wide expertise and the Report we produced created a protocol for the handling of sudden infant death that was intended to operate nationwide. This protocol was sensitive to the needs of grief-stricken parents but also sought an explanation for the event. It also made recommendations on best practice to each profession, and for each part of the investigation process. The Report was well received both nationally and internationally, and both Colleges worked hard to promote it.

Ten years on, the Working Party met to review the progress on the handling of infant and child death and, while there had been considerable progress, there were also ways in which we felt that the situation could be further improved. A statutory duty to undertake investigation of any death in childhood has now been introduced. This means that there is proper scrutiny of all cases where a child dies and does not involve picking and choosing. However, there are still areas where the aspirations of the Report have not been wholly fulfilled, or where uncertainty remains. For example, the terminology used by coroners can vary between coroners. The terminology is also often at variance from that used by the medical and other professionals involved in a child death review. This can cause concern to families and confusion. Legal language in a coroner's verdict reflects legal evidential standards, whereas doctors and others may be concerned with epidemiological factors. The Chief Coroner has recommended that coroners should continue to use the word 'unascertained' where the medical cause of death has not been ascertained, and I welcome this clarification and hope this will be explained to families. Reference to SIDS (sudden infant death syndrome) may be used where a coroner is satisfied there is sufficient evidence to describe the death as such and may say 'Unascertained (SIDS)', but in very many cases this will not be possible because the evidence is just not clear enough.

I think it is impressive that medical professionals have kept this subject under such close scrutiny and have maintained a high level of vigilance to prevent any risk of further wrongful accusations. There was particular anxiety that, in some parts of the country, the protocol was not being observed or had been modified in unhelpful ways. This revised Report is the product of a fresh look at practice and improves the multi-disciplinary approach originally recommended.

It goes without saying that for innocent parents to have a child taken from them, or to be prosecuted and convicted of killing a child who actually died of natural causes, is the stuff of nightmares. It is right and desirable that we do everything in our power to prevent such terrible suffering. When we no longer feel rage at injustice we will have lost our humanity and our claims at living in a civilised society. However, we must also acknowledge that in a small percentage of the cases where a baby dies, something unlawful will have taken place. This must not be forgotten. Despite our unwillingness to accept the possibility, we have learned conclusively in the last 40 years that some mothers, fathers and other carers do induce illnesses in their children or hurt their children and sometimes fatally harm them. Child protection is a responsibility all of us must bear because of the special vulnerability of the youngest among us, who have no voice.

Creating rules and procedures that square the circle of maintaining high standards in the interest of justice for parents while also safeguarding the young and ensuring their wellbeing is an almighty challenge. We hope this updated Report can effect positive change within the system and go some way to guard the best interests of all concerned.

A handwritten signature in black ink that reads "Helena A. Kennedy". The signature is written in a cursive style with a large initial 'H'.

Baroness Helena Kennedy QC

Introduction



Whenever an infant dies, it is a tragedy – first and foremost for the infant and family, but also for all those who knew the infant and family, including those professionals who may have worked with them, and for society as a whole. Every infant who dies deserves to be treated with respect and care. This includes the right, in an unexpected death, to have the death fully and sensitively investigated in order to identify, where possible, a cause of death and to learn lessons for the prevention of future infant deaths. Thorough and sensitive investigations go hand in hand with a supportive approach to the family in their grief, and can help to ensure that all statutory requirements are met, and that family members, the community and all professionals are supported through the process.

This is a revision of the 2004 report,¹ and encompasses the statutory duties of individual professionals and agencies to investigate all sudden and unexpected deaths in infancy and childhood with due thoroughness, care and compassion, according to *Working Together to Safeguard Children: A Guide to Inter-agency Working to Safeguard and Promote the Welfare of Children* (Department for Education, 2015)² and best evidence. Such guidance is based around regulatory structures in England, but it is intended that the principles of the guidelines can also be applied in areas in which other systems are in place.

While focusing primarily on sudden unexpected deaths in infancy (SUDI), the principles in these guidelines broadly relate to all unexpected deaths in children from birth (excluding stillbirths) to age 18. This includes unexpected deaths in the early neonatal period, unexpected deaths for which a natural cause is not immediately apparent, and deaths from external causes, including accidents, suicides and possible homicides (recognising that where a police criminal investigation is required, all other multi-agency processes must be consistent with any police investigation priorities). The principles also recognise that the exact process followed may require modification according to the age of the child and specific circumstances. This aligns with recommended child death review processes in *Working Together*.²

We know from the work of The Lullaby Trust, a leading sudden infant death charity (formerly The Foundation for the Study of Infant Deaths), that when a family is unexpectedly bereaved, their overwhelming need is to find out why their infant has died, and they would like the investigation to be as thorough as possible. They support the

compilation of a detailed and comprehensive history, a meticulous post-mortem examination with all appropriate ancillary tests, and careful discussion between the professionals involved. They understand that all this may take some time and they will accept, in the interest of greater accuracy, a delay before the issue of the death certificate. Most bereaved families would accept the routine retention of tissues following post-mortem examination for possible later diagnostic review. Families recognise the need for the police to be involved in the investigation of SUDI, but this clearly has to be carried out in an appropriate and sensitive manner. At all stages, families need to be told what is happening, what has been found so far and what will happen next.

Providing support and care to the bereaved family from the earliest possible stage is a core component of the joint agency response and runs through all stages of the response. The parent(s), who are usually the first to discover their infant has unexpectedly died, will be extremely distressed and shocked. At all times consideration should be given to the family's wishes and beliefs, and how these can be accommodated within any statutory requirements. [*Level of evidence: C – see explanations of levels in section iv of this introduction.*]

i) Age range covered by this document

The majority of this document will focus on children aged 0–24 months, but in order to be consistent with *Working Together*,² which covers all children aged 0–18 years, it is suggested that most of these principles can apply to children of all ages, although there will be exceptions. The general structure and approach of these guidelines should be used with modifications for the deaths of older children. Clearly the questions asked of families and some professionals will be different and the investigation would be broader. The older a child is, the less dependent he or she is on adults, and hence the likely causes of death will differ. For ease of reading, the term 'infant' is used throughout but this could mean baby, infant or child.

ii) Terminology

Designated paediatrician for unexpected deaths in childhood

Also referred to as ‘designated paediatrician’, this is a senior paediatrician responsible for coordinating responses to unexpected childhood deaths. This is a statutory role, with responsibilities set out in *Working Together*.²

Family

The term ‘family’ is normally used in these guidelines to refer to parents or primary carers. It may also include extended family members.

Lead health professional

For each unexpected infant death, a lead health professional should be appointed to coordinate the health response to that death. This lead health professional will take responsibility for ensuring that all health responses are implemented, and for ongoing liaison with the police and other agencies. This will normally be the designated paediatrician for unexpected deaths in childhood, or another health professional with appropriate training and expertise in responding to unexpected infant deaths. Where no out-of-hours rota for responding to unexpected infant deaths exists in a locality, the role of lead health professional should be taken by the senior attending paediatrician. This role should then be handed over to the appropriate health professional at the earliest opportunity. Where the role of lead health professional is taken by a specialist nurse or someone other than the designated paediatrician, they must be supported in the role by the designated paediatrician with adequate case supervision.

Post-mortem examination

This is the medical term for ‘autopsy’. In most cases this will involve an examination by a specialist pathologist including opening of the body and head, collection of samples for ancillary investigations and microscopic examination of tissue samples. The results of all such investigations are usually required before a medical cause of death can be provided.

Working Together

The colloquial name for HM Government's Department for Education publication, *Working Together to Safeguard Children: A Guide to Inter-agency Working to Safeguard and Promote the Welfare of Children* (2015).²

Note on the following terminologies: We recognise that different parties may use terminologies differently. For clarity, the terminology used within these guidelines is defined below. It is recognised that each of the acronyms describes a set of circumstances often encompassing the age of the child, but each has in common the fact that the cause of death has not been identified, despite thorough investigation.

SUDI/SUDC (sudden unexpected death in infancy/childhood)

This encompasses all cases in which there is death (or collapse leading to death) of a child, which would not have been reasonably expected to occur 24 hours previously and in whom no pre-existing medical cause of death is apparent. This is a descriptive term used at the point of presentation, and will include those deaths for which a cause is ultimately found ('explained SUDI/SUDC') and those that remain unexplained following investigation. While many of these guidelines may be applied if required, they are therefore not necessarily intended to be applied to cases with a previously diagnosed medical condition in which a medical certificate of cause of death can be provided.^{3,4}

Undetermined pending further investigation

This is a term that may be used by pathologists providing a preliminary report to HM Coroner following the initial post-mortem examination, if no cause of death can be initially identified and there are no features to suggest unnatural death.

SUDI (sudden unexpected death in infancy)

In this context, this term is used for infants up to 24 months of age in order to facilitate use with other agency investigations.

SUDC (sudden unexpected death in childhood)

This refers to the presentation of sudden expected death in a child above 24 months (see SUDI above). As noted above, these guidelines are primarily intended for use in infancy (SUDI) but may be applied to older children in appropriate circumstances. We do not further specify SUDC within this document.

SIDS (sudden infant death syndrome)

This refers to the sudden and unexpected death of an infant under 12 months of age, with onset of the lethal episode apparently occurring during normal sleep, which remains unexplained after a thorough investigation including performance of a complete post-mortem examination and review of the circumstances of death and the clinical history.⁵

SUDI, unexplained

This is the preferred term for use in cases in which there is no clear cause of death and there are no features to suggest unnatural death or inflicted injury, but in which the circumstances do not fit the criteria for SIDS (for example, deaths in which the history, scene or circumstances suggest a high likelihood of asphyxia but in which positive evidence of accidental asphyxia is lacking).

Unascertained

This is a legal term often used by coroners, pathologists and others involved with death investigation, where the medical cause of death has not been determined to the appropriate legal standard, which is usually the balance of probabilities.

It is our recommendation that:

- professionals working together in responding to unexpected child deaths use the terms 'SUDI/SUDC' at the point of presentation to include all unexpected infant/child deaths
- those deaths for which a clear medical or external cause is found should be referred to as such as soon as the cause is identified
- those infant deaths under 12 months of age that meet the criteria for a diagnosis of SIDS are labelled as such
- all other unexplained deaths are referred to as 'SUDI, unexplained', 'SUDC, unexplained' or 'Unascertained' until such time that the coroner issues a legal cause of death following an inquest that has taken full account of information from the rapid response multi-agency investigation and the local case review meeting (see Appendix 8).

iii) Unusual clinical situations

There are situations that are not clear-cut and might need consultation with the designated paediatrician and others in the joint agency team, such as the following examples.

- 1** The infant who is unwell at the time of presentation but who deteriorates rapidly and dies of possible septic shock and multi-organ failure due to presumed sepsis.

In this situation, the condition has arisen suddenly and unexpectedly, as most life-threatening cases of sepsis in infants do, but from the time that septic shock has become established, death can be anticipated despite the best efforts of paediatric intensive care unit (PICU) staff. If the attending paediatrician can certify the death as being due to sepsis, there is no requirement for a SUDI investigation. If there is insufficient evidence to certify death, the case must be discussed with the coroner and the SUDI process initiated. This can be modified if the coroner feels that no further investigation is required. In any event, a home visit would not normally be undertaken in such cases unless concerns were raised.

- 2** The infant who is successfully resuscitated from an out-of-hospital arrest but dies subsequently or who may survive for a period of time.

In this situation, the infant might live for days or weeks before dying, usually through withdrawal of care following discussions with the family. As the out-of-hospital arrest was sudden and unexpected, and the prognosis was poor, the police may secure the scene but will not be able to do this indefinitely. Thus, such a presentation should be discussed with the designated paediatrician in order for a home visit to be undertaken, despite the infant remaining alive, as important information might be found that can assist the treating team and police.

- 3** The child with a life-limiting or life-threatening condition who dies suddenly and unexpectedly.

If a child with a recognised life-limiting or life-threatening condition dies suddenly or following a brief illness, a SUDI

investigation might not be required. If there are concerns, the lead health professional should liaise with the coroner. In any event, if the death was not expected, the lead health professional should have a discussion with other members of the joint agency response team, and the clinical team who know the child and family, and reach a decision on whether a SUDI investigation should be initiated. Again, if in doubt, the designated lead health professional should consult with the coroner.

4 Twins and multiples.

Twins and multiples have around twice the risk of SIDS compared with singletons. Components of risk vary in different studies and include preterm gestation, low birth weight and zygosity.⁶

The immediate concern of a family that has lost one twin to SIDS is losing the surviving twin to SIDS also. The concordance rate for losing both twins to SIDS is difficult to estimate, due to small numbers, but was around four times that for the overall risk of a twin in one study.⁷ Malloy and Freeman found that the relative risk of a second twin dying in their study was eightfold; in one of their seven cases, the co-twins died on the same day, while the other six deaths were separated by a mean of 14 weeks.⁸

When one twin dies from SIDS, the surviving twin should be admitted to an inpatient paediatric unit for close monitoring for at least 24 hours. Investigations to exclude infection, inherited metabolic disease or an underlying cardiac condition should be undertaken. Follow-up support should be organised prior to discharge. In most areas, this will be provided by enrolling the infant on the 'Care of Next Infant' (CONI) programme (a longstanding national programme managed by The Lullaby Trust, usually delivered by health visitors, which coordinates additional support to bereaved parents. This would also apply to surviving triplets and other multiples.

5 When a newborn infant suddenly collapses and dies on a neonatal unit, consideration should be given as to whether a joint agency response is required. In most situations this would not be appropriate.

iv) Levels of evidence

These guidelines are based on the best-available evidence from research in the UK and internationally, recommendations from bereaved families, and emerging consensus from professionals in all agencies involved in responding to unexpected deaths. Statements in these guidelines are based on published evidence in peer-reviewed journals where possible, otherwise on expert opinion of best practice based on previous guidelines, or on appropriate statutory obligations. The key statutory obligations are outlined in Chapter 5 of *Working Together*.² The level of evidence for all statements is provided in square brackets, according to the classification below. All statements are evidence level C unless otherwise stated.

For statements based on expert opinion only, it is nevertheless recommended that all centres apply the suggested guidelines in order that retrospective review and audit of practice may lead to future evidence-based modifications.

- A** Statement supported by high-quality research evidence published in peer-reviewed journals, such as methodologically sound qualitative research, systematic reviews or randomised controlled trials of interventions, high-quality cohort or case-control studies.
- B** Statement supported by research of lesser or unclear quality, such as research reports not in peer-reviewed publications, audits, case series, patient-satisfaction surveys.
- C** Statement based on professional consensus opinion, advice of family support or user groups, or current best practice.
- S** Statement reflects statutory obligations or responsibilities.

The guidelines



1 Introduction

- 1.1** The sudden, unexpected death of an infant or child is a tragedy for the family and all involved. Such deaths may result from previously unrecognised medical conditions or as a result of unintentional incidents. However, a significant proportion of sudden unexpected deaths in infancy (SUDI) remain unexplained. There is evidence from national and international epidemiological studies that a significant number of sudden unexpected deaths in infants are associated with adverse environmental conditions (such as co-sleeping with carers, passive smoking, and alcohol or substance misuse by the carers). In rare cases, parental actions or actions by third parties through abuse or neglect may have caused or contributed to the death.⁹⁻¹⁹ [A]
- 1.2** Whatever our understanding of the underlying cause of death or any contributory factors, the bereaved family and the deceased infant deserve to be treated with sensitivity and respect. [C]
- 1.3** These guidelines provide a framework for professionals in responding to the sudden unexpected death of an infant or young child up to the age of 24 months. Many of the principles should normally be applied to unexpected deaths in older children. [C]
- 1.4** The aims of the response are to:
- a) establish, as far as is possible, the cause or causes of the infant's death
 - b) identify any potential contributory or modifiable factors
 - c) provide ongoing support to the family
 - d) ensure that all statutory obligations are met
 - e) learn lessons in order to reduce the risks of future infant deaths.^{2,3,20,21} [S]
- 1.5** An unexpected death may be sufficiently explained – by its clinical presentation, or early laboratory or radiological findings – so that the attending doctor is able to issue a medical certificate of the cause of death (MCCD). In those situations, it may not be necessary or appropriate to institute

these guidelines. In all unexpected deaths where a medical practitioner is unable to issue a MCCD, it is the responsibility of the coroner to determine the cause of death and to ensure all statutory requirements around registration are met. However, to do this, the coroner is dependent on the information provided by the professionals involved in caring for the infant and responding to the death. All professionals involved in this joint agency response have a responsibility to work with the coroner in achieving these aims.^{2,21-23} [S]

1.6 No action in relation to the deceased infant should be taken by any professional without the prior agreement of the coroner. A standard response should be agreed in advance to avoid the need to consult on every case. This could include agreement on a standard set of investigations to be taken, along with agreement on appropriate mementos for the family. Where there is any doubt about the appropriateness of a course of action, the coroner should be consulted first. If there is any suggestion of neglect or abuse, the professionals must contact the coroner immediately and the senior police investigator shall initiate investigations according to agreed police procedures.^{2,21,22} [S]

1.7 The joint agency response consists of the following essential components. While the manner in which these are implemented may vary in accordance with local priorities, needs and resources, no response should be considered complete without these core components:

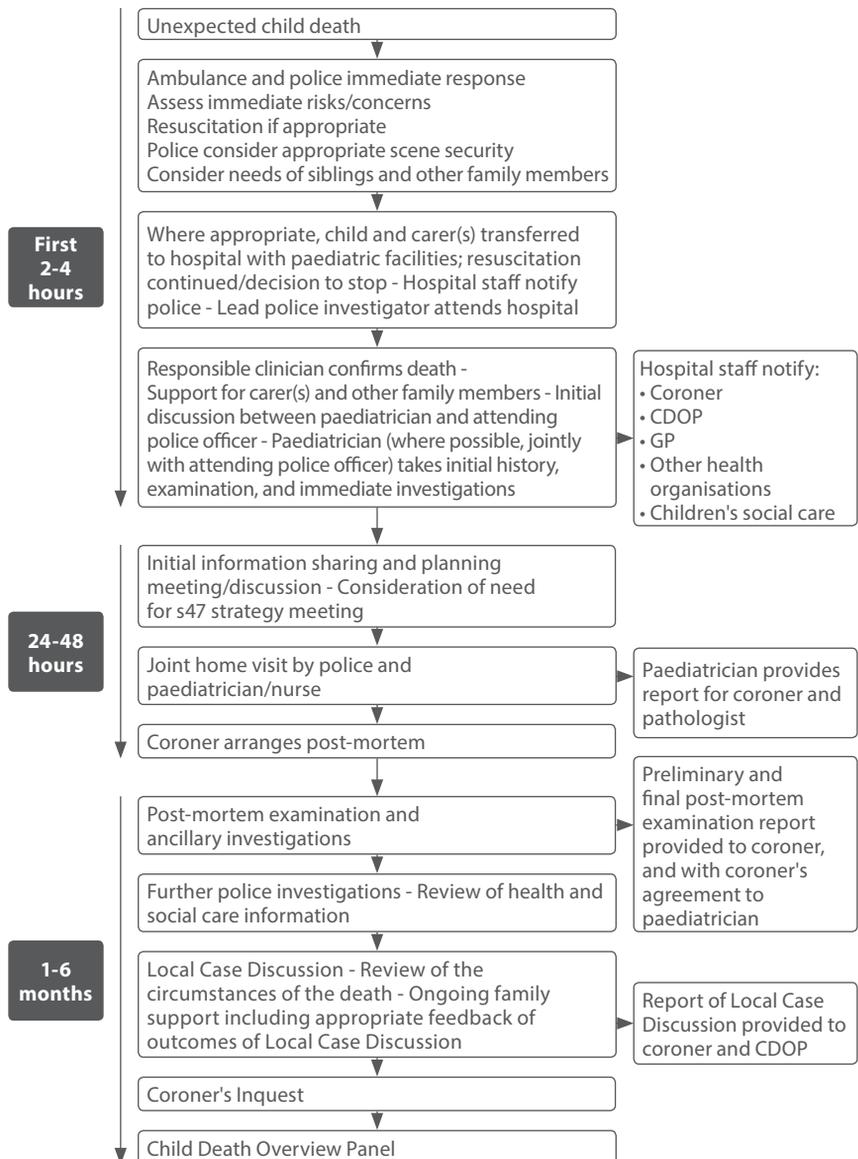
- a) careful multi-agency planning of the response
- b) ongoing consideration of the psychological and emotional needs of the family, including referral for bereavement support
- c) initial assessment and management, including a detailed and careful history, examination of the infant, preliminary medical and forensic investigations, and immediate care of the family, including siblings
- d) an assessment of the environment and circumstances of the death

- e) a standardised and thorough post-mortem examination
- f) a final multi-professional case discussion meeting.²⁴ [B]

1.8 The sequence of procedures is set out in Figure 1.

Figure 1. The joint agency response to an unexpected infant death

From *Working Together*, 2015 ²



2 Multi-agency planning

- 2.1** A multi-agency approach is key to the effective investigation of an unexpected death and support for the family. Such an approach should be initiated at the point of presentation, and should continue throughout the process. This requires all professionals to keep each other informed, to share relevant information and to work collaboratively.^{24,25} [A]
- 2.2** All infants found collapsed or dead should be taken to the nearest emergency department with the facilities for paediatric resuscitation, including the presence of trained resident paediatricians and an anaesthetics team. As soon as possible after the arrival of the infant in the emergency department, a lead health professional should be assigned. This may be the on-call consultant paediatrician or, where suitable arrangements exist, a designated paediatrician for unexpected childhood deaths (also referred to as 'designated paediatrician') or specialist nurse. This lead health professional will take responsibility for ensuring that all health responses are implemented, and for ongoing liaison with the police and other agencies. This same process should still be applied if the infant has not been brought to the emergency department for any reason. [C]
- 2.3** Where no out-of-hours specialist provision for SUDI exists, the on-call paediatrician should take the role of lead health professional, but may transfer this responsibility to the specialist health team on the next working day. When the responsibility for lead health professional is transferred from one professional to another, there must be a clear handover of responsibilities, and the other lead professionals in other agencies, including the police, children's social care and the coroner's office, should be notified.^{24,25} [B]
- 2.4** The police should be contacted as soon as possible after the arrival of the infant in the emergency department, if this has not already been done, and arrangements made for the senior police investigator designated to lead the investigation of the death to attend. This investigator should be experienced in infant abuse/death investigation cases.

If such an investigator is not immediately available, a handover to such a qualified investigator should occur as soon as possible and prior to any multi-agency meeting.

The investigator should have knowledge of and adhere to the following five national policing principles for dealing with unexpected infant deaths:

- balanced approach between sensitivity and the investigative mindset
- multi-agency response
- sharing of information
- appropriate response to the circumstances
- preservation of evidence. [C]

Appendix 1 outlines the principles of the police investigation but in summary format. Police investigators should refer to the national Approved Professional Practice guidance, *ACPO 2014: A Guide to Investigating Child Deaths, for comprehensive guidance.*²⁶

- 2.5** Local children’s social care services should also be contacted and asked to check immediately their records relating to the infant, the immediate family members, other members of the household and others with whom the infant has lived. Any relevant information identified by children’s social care should be promptly shared with the police and the paediatrician. [C]
- 2.6** On some occasions, particularly if concerns have been raised about neglect, non-accidental harm or unusual circumstances of the death, the police may appoint a family liaison officer to maintain close and continued contact with the family over the few days after the death. If a family liaison officer is appointed, the family must be given clear and accurate information on his/her role. [C]
- 2.7** Certain factors in the history or examination of the infant may give rise to concerns about the circumstances surrounding the death. If any such factors are identified, it is important that the information is documented and shared with senior colleagues, the coroner and relevant professionals in other

key agencies involved in the investigation. All injuries should be recorded immediately and again subsequently, and the lead investigator should arrange a photographic record.

A list of such factors has been produced (see Appendix 2). This list is intended only as a guide and is not exhaustive. It is also important to note that the absence of such factors does not mean the death cannot be suspicious, and the death should be investigated to ascertain circumstances and cause. [C]

- 2.8** An initial information-sharing and planning discussion should take place before the family leave the emergency department. This should, as a minimum, include the lead health professional and police investigator, and should desirably include (or if not, take account of information shared from) children’s social care and the ambulance crew. These discussions should be face to face in the emergency department where possible, but may need to be telephone based. Ambulance crews should not routinely be detained from returning to operational response by this process, but clear records and access to the crew by the police if necessary should be facilitated by the respective Ambulance Trust at the earliest opportunity. [C]
- 2.9** The initial discussion should review the history and circumstances of the death, any immediate background information from health, police or social services, and any concerns arising from these. In particular, consideration should be given to the safety and wellbeing of any other children in the household. [C]
- 2.10** If, at any stage, concerns are raised that abuse or neglect may have contributed to the infant’s death, or any other significant concerns emerge about possible child protection issues, an initial multi-agency strategy discussion/meeting should be convened by children’s social care. In these circumstances, the police will normally take the lead in investigating the death and the joint agency response should be adapted to take account of all forensic requirements.² [S]

- 2.11** The lead health professional and the police investigator should review and plan the ongoing approach to information gathering and assessment. This should include consideration of any outstanding medical investigations, notification of all appropriate agencies, arrangements for the post-mortem examination and plans for a visit to the home/scene. [C]
- 2.12** The lead health professional should make contact with the family's GP and health visitor or midwife as soon as possible to ensure they are fully informed, and to obtain any additional relevant medical, social or family information. In all initial and subsequent meetings with the family, consideration should be given to including a member of the primary care team where possible, in order to provide ongoing care and support to the family. [C]
- 2.13** As soon as possible after the death, a further information sharing and planning meeting should be held. This early meeting is a key action as part of the joint agency response, and will normally take place during normal working hours to ensure all relevant professionals can attend. The meeting should ideally be face to face, and should include the lead health professional, the police investigator, the primary care team, children's social care and any other relevant professionals who know the infant or family. The coroner's officer may be invited to this meeting. One of those present should be tasked to take and circulate notes from the meeting. A copy of the minutes of the meeting should be sent to the coroner, pathologist, all agencies involved in the meeting and the local/regional Child Death Overview Panel (CDOP) administrator/coordinator. [C]
- 2.14** The meeting will review all information available at that stage, and will identify what further investigations are required and the ongoing support needs of the family. [C]
- 2.15** Following the home visit, and once the results of the post-mortem examination are known, further discussion should take place between the lead health professional, police investigator and coroner's officer, to review any emerging information, discuss what is known about the

cause of death and any contributory factors, determine what further investigations or enquiries are needed, and confirm what information can be provided to the family, how and by whom. These discussions may take the form of telephone discussions or further multi-agency meetings, particularly where the circumstances are complex or where there are many professionals involved. [C]

3 Family support

- 3.1** Immediately upon their arrival at the hospital, the family should be allocated a member of staff to care for them, explain what is happening and provide them with facilities to contact friends, other family members and cultural or religious support. [C]
- 3.2** Where attempts are made at resuscitation, the member of staff allocated to the family should ensure that the family is kept fully informed during the course of the resuscitation and, subject to the approval of the medical staff involved, the family should be given the option to be present during the resuscitation. The allocated member of staff should stay with the family throughout this period to explain what is going on. [C]
- 3.3** It will normally be appropriate for the family to hold and spend time with their infant once death has been confirmed. This may happen in appropriate circumstances after discussion with the lead investigator, even if there are suspicions of possible abuse or neglect contributing to the infant's death, but there must be a discreet professional presence.²⁴⁻²⁷ [B]
- 3.4** Consideration should be given to the capacity of the family to engage in the processes unfolding around them. Particular consideration should be given to issues of language, health or mental capacity. Further considerations must also be given to the faith and culture of the infant and their family. [C]
- 3.5** Where English is not the family's first language, every attempt should be made to provide a translation/interpreting service, including out-of-hours provision, for example through Language Line. Family members, particularly children, should not act as interpreters for their parents. [C]

- 3.6** Responsibility for providing ongoing information and coordinating appropriate care and support for the family is shared between the lead health professional, police investigator and coroner's officer. There needs to be clear liaison between these three as to who will take responsibility for each aspect of care and support. [C]
- 3.7** The family should be told at an early stage that, because their infant's death was unexpected, the coroner will need to be informed and there will need to be a police investigation. This must be explained to the family in a sensitive way, emphasising that these are routine procedures that are followed in any unexpected infant death. [C]
- 3.8** The purpose and process of the joint agency response should be explained to the family, emphasising that all professionals are working together to try and help them understand why their infant has died and to support them. [C]
- 3.9** The family should be informed that, as part of this process, information will be shared with their primary care team, social services and other relevant professionals.² [S]
- 3.10** Unless the cause of death is immediately apparent, the family should be informed that the coroner is likely to order a post-mortem examination. The family should be informed about the post-mortem examination, including the likely venue and timing, any arrangements for moving their infant, and the likelihood that tissues will be retained during the post-mortem examination. This information should be provided in a sensitive and meaningful manner. [C]
- 3.11** The family should be made aware that it may take several weeks to secure the results of the post-mortem examination and for the coroner to come to a conclusion. Every effort should be made to keep the family informed at each stage of the process. The family should receive regular telephone calls from either the healthcare professional supporting the family or the coroner's office to let them know how matters are proceeding. The Lullaby Trust has told us that families greatly appreciate such calls, even if this is to tell them that a further delay is expected.^{24,25,27} [B]

3.12 Written information is important and valuable to the family, because much of the detail of what is discussed can be forgotten or lost in the immediate stress of their infant's death. It is important that the family are provided with relevant and up-to-date information, but are not overwhelmed by this. The Lullaby Trust produces a comprehensive leaflet, *When a Baby Dies Suddenly and Unexpectedly*,²⁸ which can be shared with families at the earliest opportunity. Details of local and national support organisations, and information about the post-mortem examination (NHS leaflet) and the child death review process by the local CDOP should also be provided to the family.

A list of bereavement support organisations and their contact details is provided in Appendix 3. Most families do seek immediate support from external agencies following the unexpected death of their infant, and their involvement with the family over a period of time needs to be factored in as part of the wider multi-agency response. [C]

3.13 The family should be clearly informed of the names and contact details of the lead professionals responsible for the joint agency response, including the lead health professional, police investigator and coroner's officer. If it becomes necessary to transfer responsibilities between professionals, the family should be informed of this and introduced to any new professionals involved. [C]

3.14 The family must be given clear details of whom to contact, both in working hours and out of hours, should they have any questions or concerns. [C]

3.15 Under the Police and Criminal Evidence Act 1984,²⁹ if the police investigator has suspicions that the death may be a crime, the law demands that the suspect's rights are protected and certain legal restrictions apply in terms of how they can be spoken to, and by whom. This is particularly relevant where the possible suspect is a family member. It should be noted that Section 66 of the Serious Crime Act 2015³⁰ amends Section 1(2)(b) of the 1933 Children & Young Persons Act,³¹ such that it is now an offence when

a child dies through suffocation while sleeping with an adult, where the adult is under the influence of alcohol or 'prohibited drugs'. The definition of sleeping location has also been updated to include any furniture or surface – it is no longer restricted to 'beds'. [S]

- 3.16** As part of the explanation about the post-mortem examination given to the family, the lead health professional or coroner's officer should explain that tissue samples will be taken and that, following the coroner's investigation, the family can then determine the fate of the tissue according to the Human Tissue Act 2004.³² [S]
- 3.17** Since by definition the cause of death in SUDI is not known, it is important that all organs are examined carefully during the post-mortem examination. For this reason, the potential beneficial effects that organ donation may afford bereaved families are not available in the case of SUDI. If a family voluntarily raises this possibility, they should be sensitively informed that it is not an option in their infant's case.²² [S]
- 3.18** In situations where an infant has an unexpected cardiac arrest, is resuscitated and stabilised on an intensive care unit, but a decision is made subsequently to withdraw care, there may be opportunities for organ donation if the cause of death is known. Each case should be considered in the context of the specific circumstances regarding organ and tissue donation, and the possibility should be discussed with the coroner and family at an early stage. [C]
- 3.19** Consideration should be given to any practical support needs the family might have, for example, support with suppressing breast milk production, housing or employment-related needs, and support with any anxiety-related symptoms such as sleep disturbance. Many of these issues will be best addressed through the primary care team, who should be kept informed of the process of the joint agency response at all stages. [C]

4 Initial assessment and management

- 4.1** On receipt of a 999 call indicating that an infant has been found unexpectedly collapsed or dead, the call centre should immediately notify ambulance control to dispatch an ambulance crew and, where appropriate, a first responder. The police should also be notified and an officer dispatched to the scene. This officer should ideally be an appropriately qualified investigator, and every effort should be made for this officer to attend in plain clothes. [C]
- 4.2** On arrival at the scene, the first responder or ambulance crew should carry out an immediate appraisal of the circumstances. Unless there are clear indications that the infant has been dead for some time, appropriate resuscitation should be started and continued until the infant is brought to hospital. [C]
- 4.3** The paramedic/ambulance crew should inform the emergency department of the hospital that an infant has been found unexpectedly collapsed or dead and to have the resuscitation team on stand by and anticipating the arrival of the infant/child. [C]
- 4.4** The first responder/ambulance crew should elicit a very brief initial account of the circumstances and whether there are any infant medical issues, such as any relevant past medical history or current medication for the child. They should note their impressions of the environment in which the infant was found, and any concerns about care. A copy of the ambulance crew's record should be provided to the lead health professional and police investigator. [C]
- 4.5** Unless there are exceptional reasons not to, the infant should be brought immediately to an emergency department with paediatric care. Resuscitation should be continued en route to the hospital. The default position should always be to attend the emergency department, but with older children where the cause of death is more apparent (for example, stabbing or a train-related disturbance), a decision may be made to transfer straight to mortuary facilities or to remain in situ at the crime

scene to allow other forensic processes to take place under the guidance of the senior police investigator. In such cases it must be ensured that bereavement support is in place. [B]

- 4.6** Arrangements should be made for the family to attend the emergency department, either accompanying the infant in the ambulance or separately. Consideration should be given to the care and welfare of any other children in the home. The attending police could assist with these arrangements. [C]
- 4.7** The attending police investigators should undertake an initial appraisal of the environment where the infant died or was found. This may include brief questioning of the family but the priority is to get the infant with the family to an emergency department. Police interviewing should not delay this departure. Further priorities are to ensure the safety of others, including other children in the home, and to maintain the integrity of the environment. The police investigators should assist the ambulance crew in these arrangements. [C]
- 4.8** If there are signs that the infant is clearly dead and has been for some time, for example, the development of rigor mortis or dependent livido, resuscitation would not be appropriate. This should be discussed with the family. In most circumstances, it will still be appropriate to transfer the infant and family to an emergency department with paediatric facilities where the joint agency response may be initiated, the infant can be examined and appropriate immediate medical investigations carried out. [C]
- 4.9** However, if the family would prefer their infant to remain at the home, the attending ambulance and police team should liaise with the paediatric team at the hospital and with the police investigating officer to plan an appropriate response. In such circumstances, a GP, certified member of ambulance staff or forensic medical examiner may confirm that the infant has died. Consideration must be given to how an examination of the infant and appropriate immediate medical investigations will be carried out. The hospital is the best place for this to take place and the family should be encouraged to agree to the infant being moved to the

hospital. All other aspects of the joint agency response should proceed along the same lines as for any other infant. Medical investigations that include the removal of samples from the body must take place on HTA-licensed premises. [C]

The infant remaining at the home address should be seen as a very rare occurrence, however, and not one to be routinely offered to the family – only when exceptional circumstances exist. If this is a chosen course of action, liaison should also occur with the coroner at the earliest opportunity. [C]

- 4.10** If there are immediate indications of abuse, neglect or an assault contributing to the death, the police should take the lead in the management, under the direction of an investigating officer. In such circumstances, and if the infant is clearly dead, it may not be appropriate to move the infant and the scene should be secured as for any potential crime scene.^{2,26} [S]
- 4.11** In the emergency department, the care of the family and the investigation of the cause of the death should follow a similar course, whether or not resuscitation has been attempted. [C]
- 4.12** The decision to stop resuscitation should be made by a senior medical practitioner (usually the consultant paediatrician or consultant in emergency medicine) after discussion with the resuscitation team and the family.³³ [C]
- 4.13** Where an infant is successfully resuscitated, they should be stabilised and moved to a paediatric intensive care facility. Subsequent discussions regarding ongoing intensive care or the withdrawal of care should involve the paediatric intensive care team, the family and the police investigator. Consideration should be given to the timing of any withdrawal of intensive care, support for the family around the decision, and the appropriate timing and process of the joint agency investigation, including a home visit.³³ [C]

- 4.14** Once a decision has been made to stop resuscitation, an appropriately qualified medical practitioner should confirm that the infant is dead, in accordance with established guidelines. Confirmation of the fact of death and the time should be recorded in the infant's notes. [C]
- 4.15** When the infant has been pronounced dead, the lead health professional (normally the on-call consultant paediatrician) should inform the family, having first reviewed all the available information. This interview should be in the privacy of an appropriate room. The member of staff allocated to care for the family should also be present at this time.²⁵ [B]
- 4.16** Once death has been confirmed, the consultant paediatrician on call or the designated SUDI paediatrician should carefully and thoroughly examine the infant. The police investigator should be present while this happens. A particular note should be made of any marks, abrasions, rashes, evidence of dehydration or identifiable injuries at this time, in addition to a detailed general examination. The presence of any discolouration of the skin, particularly dependent livido, should be carefully and accurately documented, along with other post-mortem changes such as frothy blood-stained fluid from the airways and rigor mortis. Where possible, the eyes should be examined by direct fundoscopy for the presence of retinal haemorrhages. All findings should be carefully documented in the notes and on a body chart. The infant should be weighed and measured (length and head circumference), and the measurements plotted on a centile chart. The deceased child should be re-examined where practicable to note any external marks that might not have been present on initial examination, particularly if trauma is being considered as a possible causative factor in the child's death. More details are provided in Appendix 4.^{34,35} [B]

- 4.17** If resuscitation has been attempted, any intravenous, intra-arterial or intra-osseous lines inserted for this purpose should only be removed following discussion with the police or coroner. All medical interventions, including sites of attempted vascular access, should be carefully documented on a body chart. If an intravascular cannula has been inserted and it is thought that it may have contributed to failed resuscitation (for example, by causing a pneumothorax), it should not be removed. [C]
- 4.18** If an endotracheal tube has been inserted, this may be removed after its correct placement in the trachea has been confirmed by direct laryngoscopy (preferably by someone other than the person who inserted it) and the case discussed with the police or coroner. The size and position of the tube should be documented. [C]
- 4.19** Once the infant has been examined and all findings recorded, along with medical or police photographs where indicated, and sampling taken, the infant can be cleaned and dressed and given to the family to hold if they wish, unless there are suspicious findings that preclude such actions. If they wish, the family should be offered the option of cleaning and dressing their infant in an appropriate setting. This may be particularly important in certain cultures.^{27,36} [C]
- 4.20** Health staff in the emergency department should offer the family the option of mementos being taken such as handprints, footprints, a lock of hair and photographs. This should be done sensitively, recognising that this can be important for many families but will not be wanted by all. If there are suspicious circumstances surrounding the death, the taking of mementos should be discussed with the investigating officer to ensure this does not interfere with any investigation; in such circumstances it may be appropriate to delay this until after the post-mortem examination.³⁶ [C]
- 4.21** All emergency department staff should follow the general principles of family support outlined above. [C]

- 4.22** The consultant paediatrician or senior medical practitioner should ensure that the joint agency response is initiated by contacting the designated paediatrician or specialist nurse (depending on local arrangements) at the earliest possibility, and initiating an information sharing and planning discussion with the police investigator and children’s social care, as detailed above.^{24,37} [B]
- 4.23** The lead health professional (consultant paediatrician on call, designated paediatrician or specialist nurse) should take a detailed and careful history from the family. Where possible, this should be carried out with the police investigator to avoid the need for repeated questioning.^{24,37} [B]
- 4.24** Where there are any suspicious circumstances surrounding the infant’s death, it may be necessary for the police to interview separately the infant’s parents or primary carers at the time of death. In such circumstances, it is still important to obtain a full and careful medical history. A coordinated plan of who talks to the family and when should be agreed between the senior police investigator and the lead health professional. In some cases, the police investigator may also request voluntary blood and/or urine samples from family members if they think alcohol or drugs may be a contributory factor.^{2,26} [S]
- 4.25** The history should include a careful review of the past medical history, including pregnancy and birth, the infant’s growth and development, any relevant social and family history, and the events leading up to and following the discovery of the infant’s collapse. A checklist of the relevant information is attached in Appendix 5. It is important that, as far as possible, the family’s account of events should be recorded *verbatim*. [C]

The Personal Child Health Record (‘Red Book’) may also be an important source of information. The police may have removed it from the scene or it can be accessed at the home visit. Relevant family history, birth details, immunisation status, growth trajectory, outcome from routine reviews and other information about the infant may be found in it.

The information obtained from these sources, including the ambulance record (section 4.4 above) should be recorded on a standard SUDI proforma, commenced in hospital and taken to the home visit. [C]

- 4.26** The taking of a history is an ongoing process, rather than a one-off event. All details obtained should be carefully recorded and shared with the lead professionals. Any gaps identified can be covered in later meetings with the family. [C]
- 4.27** During the process of resuscitation, various medical investigations may be initiated, including blood samples for electrolytes and blood cultures. If these have not been obtained during resuscitation, they should be obtained via a post-mortem sample, along with blood for metabolic investigations, according to Table 1. Any samples collected post-mortem must be removed from the body on HTA-licensed premises. The police investigator should arrange for appropriate documentation and transportation. Any samples collected post-mortem are the property of the coroner.^{34,35} [B]
- 4.28** A single attempt at a femoral or cardiac aspiration should be made by a competent practitioner. Repeated attempts should be avoided as they may compromise the integrity of the cardiac anatomy. Blood samples should ideally be taken from a venous or arterial site, such as the femoral vein, rather than cardiac puncture, which should be avoided in potential forensic cases. [C]
- 4.29** A single attempt at urethral catheterisation or supra-pubic aspiration should be made and, if urine is obtained, it should be sent for microscopy and culture, metabolic investigations and toxicology according to Table 1. [C]
- 4.30** A single attempt at a lumbar puncture should be made and, if obtained, a sample of cerebrospinal fluid sent for microscopy and culture. If sufficient, a sample should be frozen for future metabolic investigation. [C]

- 4.31** Any stool or urine passed by the infant, together with any gastric or nasopharyngeal aspirate obtained, should be carefully labelled and frozen after samples have been sent for bacterial culture and for virology. If the nappy is wet or soiled, it should be removed, labelled and frozen. [C]
- 4.32** The lead health professional should arrange for a full radiological skeletal survey or other appropriate imaging to be undertaken. This may be undertaken at the local hospital prior to transfer of the infant for post-mortem examination. It should be performed and reported by an experienced paediatric radiologist prior to the post-mortem examination being commenced. For children over 24 months, the need for such imaging should be discussed with the designated paediatrician. Imaging investigations should be reported on as soon as possible in order to identify or rule out bony injuries, as this may change the focus of the investigation. [C]
- 4.33** Details of the recommended samples to be taken and the purposes for which they are intended are given in Table 1. It is essential that samples for various metabolic tests are obtained as soon as possible after death. Empirically, it appears sensible that other samples, such as for microbiology and toxicology, are also obtained at this time but evidence does not suggest clear differences in yield between samples obtained in the emergency department and those obtained at post-mortem examination (see Appendix 6).^{34,35,38} [B]
- 4.34** The lead health professional should ensure that all relevant professionals and organisations are informed of the infant's death, including the coroner, the GP and health visitor or midwife, the child health computer system and the local CDOP.² [S]
- 4.35** A careful account of the resuscitation should be recorded in the infant's notes, including the methods used, duration and personnel involved. The history and examination findings should be carefully documented. All actions taken following the death should be documented in the infant's notes, along with details of information shared with the family and with other professionals. [B]

Table 1. Routine suggested samples to be taken immediately after sudden unexpected deaths in infancy and childhood

Note that such samples in most cases will fall under the jurisdiction of HM Coroner, and hence communication with the coroner's office is important. Before the infant is certified to have died and/or during the resuscitation period, various samples may have been collected. These samples should be clearly documented, the coroner's officer informed, the samples secured and the results forwarded to the pathologist as soon as possible. The samples listed in this table should be taken in all SUDI cases.^{34,35,39} [B]

In unexpected deaths in older children, the appropriate clinical samples will be guided by the circumstances of the death and the clinical findings. [C]

Sample	Send to	Handling	Test
Blood (serum) 1–2 ml	Clinical chemistry	Spin, store serum at –20°C	Toxicology if indicated*
Blood cultures – aerobic and anaerobic 1 ml	Microbiology**	If insufficient blood, aerobic only	Culture and sensitivity
Blood from Guthrie card	Clinical chemistry	Normal (fill in card; do not put into plastic bag)	Inherited metabolic diseases
Blood (lithium heparin) 1–2 ml	Cytogenetics	Normal – keep unseparated	Genetic testing (if indicated)
Cerebrospinal fluid (CSF)	Microbiology***	Normal	Microscopy, culture and sensitivity
Nasopharyngeal aspirate	Virology#	Normal	Nucleic acid amplification techniques**
Nasopharyngeal aspirate	Microbiology	Normal	Culture and sensitivity
Swabs from any identifiable lesions	Microbiology	Normal	Culture and sensitivity
Urine (if available)	Clinical chemistry	Spin, store supernatant at –20°C	Toxicology if indicated, inherited metabolic diseases

Notes

* Toxicology has a low yield in routine practice, and its use and coverage of substances varies according to coronial practice. Each case should be assessed individually. [C]

** Appropriate interpretation of microbiological and virological results after SUDI remains difficult, with significant variation by group and individual.⁴⁰ [B]

*** If indicated based on clinical history or examination. [C]

Samples must be sent to an appropriate virological laboratory. [C]

1a Additional samples to be considered after discussion with consultant paediatrician [C]

- Skin biopsy for fibroblast culture in all cases of suspected metabolic disease.
- Muscle biopsy if history is suggestive of mitochondrial disorder.
- In suspected carbon monoxide poisoning, blood sample for carboxyhaemoglobin.

1b Forensic considerations [C]

- Ensure the coroner has given permission to take samples.
- All samples taken must be documented and labelled to ensure there is an unbroken 'chain of evidence', using an appropriate 'chain of evidence' proforma.
- This may mean handing samples to a police officer directly, or having the laboratory technician sign upon receiving them in the laboratory.
- Ensure that samples given to the police or coroner's officer are signed for.
- Record the sites from which all samples were taken.

5 Assessment of the environment and circumstances of the death

- 5.1** As soon as possible after the infant's death, the lead health professional (designated paediatrician, specialist nurse or on-call paediatrician) and police investigator, accompanied by the family's GP or health visitor if possible, should visit the family at home or at the site of the infant's collapse or death.^{24,37,41,42} [B]
- 5.2** The purpose of this visit is to obtain further, more detailed information about the circumstances and environment in which the infant died, and to provide the family with information and support. [C]
- 5.3** This visit should normally take place within daylight hours. If there is likely to be a delay in arranging the joint visit, the police investigator should consider whether the police should carry out an initial visit to review the environment, ascertain whether there are any forensic requirements and appropriately record what is found. Unless there are clear forensic reasons to do so, the environment within which the infant died should be left undisturbed so that it can be fully assessed jointly by the police and health professionals, in the presence of the family. [C]
- 5.4** The lead health professional with the police investigator should inform the family of the nature and purpose of this home visit. Time should be allowed for the family to go at their own pace, respecting that they may find it difficult to talk through the events or go into the room where the infant has died. Allowance should be made for others, such as grandparents or family friends, to be present to support the parents.^{24,25,27} [B]
- 5.5** The lead health professional with the police investigator should review the key elements of the history, allowing the family to elaborate on any particular aspects and to clarify any points that were unclear or missing from the initial history. Particular note should be made of any observations made by the family in the days before the infant's death. They may have taken photographs or video clips on a mobile phone that could shed light on the infant's state before death. [C]

- 5.6** When the family is ready, the police investigator and lead health professional should review the environment where the infant died. It can be very helpful at this stage for appropriate family members to be present to describe in detail the final events, how the infant was put to sleep and how they were found. [C]
- 5.7** Consideration should be given to reconstruction of the sleeping environment, for example, with the use of a doll or prop. There is no strong evidence that this provides a more accurate understanding of the mode or circumstances of death, but it may prove helpful, particularly if the account is not clear, or if there are indications of possible overlaying or asphyxiation. Anatomically proportioned dolls are available for this purpose, or the family could use a cuddly toy to illustrate how and where the infant was lying. Care should be taken not to further distress the family if a reconstruction is required. [C]
- 5.8** The police lead investigator should consider whether to request crime scene investigators to take photographs or a video of the scene of the infant's death, and whether any items should be seized for further forensic investigation. Other possible relevant recordings, such as room temperature, are detailed within the police-approved professional practice guidance for investigators.²⁶ It is rarely necessary to seize bedding or clothing and these rarely add anything to the investigation. However, there may be circumstances when an infant's cot or other sleeping environment needs to be taken for further examination. This should only be taken after the joint visit, so all items can be seen first in situ. Similarly, there may be circumstances where an infant's feeding bottle or other feeds or medications need to be taken for further analysis. [C]
- 5.9** After reviewing the information, the lead health professional and police investigator should discuss their findings so far with the family, taking care not to jeopardise any further investigation if there are concerns around possible abuse or neglect. The family should be informed of the further

investigations that will need to be carried out, including the post-mortem examination, and how and when they will be informed of the results. [C]

- 5.10** Information may be given to the family at this stage, in general terms, around possible causes of unexpected infant death. It is important, however, to emphasise that it is not possible to give a definitive cause of death until all investigations are complete, and that the ultimate decision on the cause of death rests with the coroner.^{21,22} [S]
- 5.11** The family should be given clear information about who they can contact for support or advice, including contact details for local bereavement support and relevant local or national organisations such as the Lullaby Trust (see Appendix 3).^{25,27} [B]

6 The initial case discussion

- 6.1** Following the home visit, the lead health professional and police investigator should review all information gathered to date. This may be done through an initial case discussion within a multi-agency meeting, particularly where there are complex circumstances surrounding the infant's death. [C]
- 6.2** Following this review, the lead health professional should prepare a report of the initial findings, to include details of the history, initial examination of the infant and findings from the home visit, as well as an account of any medical investigations and procedures carried out. This may be done using a standard proforma, such as in Appendix 5, and added to as the investigation proceeds. [C]
- 6.3** This report should be made available to the pathologist, the coroner and the police investigator as soon as possible, and preferably prior to the post-mortem examination.²⁴ [B]

7 The post-mortem examination

7.1 The aim of the investigation is to establish, as far as is possible, the cause of death and, in order to do this, it is important that the medical processes are similar to those of an infant with a rare condition requiring special investigation in a tertiary centre. The investigation should be carried out by specially trained pathologists with an emphasis on multi-agency working, involving close collaboration and the sharing of information between hospital- and community-based clinical staff, the pathologist, the police, social services and the coroner's service. The investigation will concentrate not just on the infant, but will consider the family history, past events and the circumstances. These factors can be helpful in determining why an infant died. All parts of the process should be conducted with sensitivity, discretion and respect for the family and the infant who has died.^{34,35,39}[C]

A key aspect of these guidelines is that all staff involved should retain an open mind, knowing that some deaths will be a consequence of neglect or abuse, but recognising that the majority are natural tragedies. All agencies have a duty of care to the family as well as to the infant who has died and other surviving children. [C]

The post-mortem examination will be ordered by the coroner, and should be carried out by a pathologist with up-to-date expertise in paediatric pathology. If significant concerns have been raised about the possibility of neglect or abuse having contributed to the infant's death, a forensic pathologist should accompany the paediatric pathologist and a joint post-mortem examination protocol should be followed (see Appendix 6). If the paediatric pathologist becomes concerned at any stage during a post-mortem examination that the death may be a consequence of abuse and a forensic pathologist is not present, the procedure must be stopped. The examination should recommence as a joint procedure by a forensic pathologist together with the paediatric pathologist, in the presence of the lead police investigator or other designated police representative. [C]

- 7.2** Families have the right to be represented at the post-mortem examination by a medical practitioner of their choice, provided they have notified the coroner of their wishes.²¹ [S]
- 7.3** Prior to commencing the examination, the pathologist should be fully briefed on the history and physical findings at presentation and on the findings of the death scene investigation by the lead health professional or police investigator. Other photographs of the infant that may have been taken at presentation or in the emergency department should also be made available. [C]
- 7.4** The post-mortem examination procedure must include a full radiological skeletal survey or other appropriate imaging, reported by a radiologist with paediatric training and experience. [C]
- 7.5** At the post-mortem examination, tissue samples, other specimens and frozen samples will be obtained according to a standard protocol (see Appendix 6), and other samples may be taken as deemed necessary by the pathologist in order to ascertain the cause of death. [C]
- 7.6** Whole organs will not routinely be retained, but when this is deemed necessary by the pathologist, the coroner and the family must be informed, and the family given the opportunity in due course for return of such samples to the body if appropriate. If the family has requested that tissue or organs be donated for future use when the coroner's investigation has concluded, there should be a record made of the purposes for which the material can be used (to ensure it is not used for other purposes) and that the appropriate person has given their consent. This is particularly important where the mother/parents of the infant are under 18 and their parents may wish to make decisions about tissue retention on their behalf. [C]
- 7.7** The coroner should be immediately informed of the initial results of the post-mortem examination, which may also, with the coroner's permission, be discussed with the lead health professional and lead police investigator as required.^{2,21,22} [S]

- 7.8** If the initial post-mortem examination findings suggest evidence of neglect or abuse, the police investigation team and children’s social care should immediately be informed and further investigations set in process.² [S]
- 7.9** Once the initial post-mortem examination findings are known, the lead health professional and the police investigator should, with the coroner’s permission, arrange to meet the family to discuss the initial findings. It is important at that stage to emphasise that the findings are preliminary, that further investigations may be required, and that it is not possible, at that stage, to draw any conclusions about the cause of death.^{25,27} [B]
- 7.10** The following procedure should be followed once the initial results of the post-mortem examination are known, to allow the coroner to proceed appropriately with the investigation. [C]
- a) If, after the initial post-mortem examination, a complete and sufficient cause of death is found, this must be given as the cause of death at this stage.
 - b) If, in the light of initial findings (including the circumstances of the death), the pathologist feels that there is no clear or sufficient cause of death – whether or not there are some concerns about the possibility that abuse or neglect might have contributed – they should give the initial medical cause of death to the coroner as ‘undetermined pending further investigation’. In these circumstances, the coroner should open an investigation and issue a coroner’s interim certificate of the fact of death, and allow the funeral to proceed unless there are valid reasons to delay. Opening an investigation or proceeding to inquest will thus have no attached stigma and the use of holding terms such as ‘undetermined pending further investigations’ should not indicate connotations of suspicion.

c) If, during the initial post-mortem examination, findings emerge that clearly identify neglect or abuse as the most likely explanation for the death, the police and the coroner should be informed of this. The coroner should open and adjourn an inquest, and will still be able to issue a coroner's interim certificate of the cause of death and release the body for funeral purposes as soon as practicable. The police will initiate a criminal investigation under the requirements of the Police and Criminal Evidence Act, 1984.²⁹ [S]

7.11 Whatever the interim cause of death as determined by the initial post-mortem examination findings, it is important to continue to pursue other aspects of the joint agency response, including providing ongoing support to the family and investigating other factors that may have contributed to the child's death. Such factors may have important implications for the family or for the provision of services to other families. [C]

7.12 As part of the explanation about the post-mortem examination given to the family, the lead health professional or coroner's officer must explain that, according to the Coroners (Investigation) Regulations 2013, tissue samples will be taken and that, following the coroner's investigation, the family can determine the fate of the tissue according to the Human Tissue Act 2004 guidelines.^{21,32} Information given to the Lullaby Trust by bereaved families suggests that this approach will be acceptable to the great majority of bereaved families, who are willing to wait for confirmation of the precise cause of death provided they are kept informed, and are meanwhile able to proceed with the funeral arrangements. [C]

8 The final case discussion

- 8.1** As soon as possible, once the results of all relevant investigations have been obtained, a multi-disciplinary local case discussion meeting should be held. The purposes of this meeting are to:
- review all information pertaining to the circumstances of the death, the background history and findings of investigations in order to determine, as far as is possible, the likely cause of death and any contributory factors
 - identify any lessons arising from the case that may help prevent future deaths
 - consider any ongoing support needs of the family, including any information needs and care requirements of current and subsequent children
 - offer a supportive environment for the professionals involved to reflect on the case and their involvement.^{24,37,42} [B]
- 8.2** The local case discussion meeting should ideally take place before the coroner's inquest and before the CDOP reviews the death. A report from the meeting should go to the coroner to assist in his or her investigation. A report should also go to the CDOP to assist in their review of the case and in identifying learning arising from the case. A suitable proforma such as the CDOP Form C or the Avon clinicopathological classification may be used to record the conclusions of the meeting (see Appendix 7).^{3,43} [C]
- 8.3** Responsibility for convening and chairing the meeting should be agreed in advance by the lead health professional and the lead police investigator. [C]
- 8.4** All relevant professionals who were involved with the infant or family, either at the time of death or previously, should be invited to the meeting. This should include:
- the lead health professional (designated paediatrician and/or specialist nurse)
 - primary care staff (GP and health visitor or midwife)

- emergency department staff (nursing staff, paediatrician, emergency department doctors involved in the emergency response)
- ambulance crew
- the police investigator
- the coroner's officer
- the pathologist
- children's social care, where they have been involved. [C]

8.5 The family must be informed of the meeting, usually by the lead health professional, and given an opportunity to contribute information or questions to the meeting through one of the attending professionals. Family members would only attend the meeting in rare circumstances, however. [C]

8.6 During the course of this case discussion meeting, it is important that there is an explicit discussion of the possibility of neglect or abuse as a contributory factor to the infant's death. If no evidence is identified to suggest neglect or abuse as contributory factors, this should be documented as part of the report of this meeting. The quality of both medical and social care that was given to the infant and family should also be discussed at this meeting, identifying any shortcomings and appropriate measures to improve future care.² [S]

8.7 If there are concerns of a child protection nature, the use of other medical experts may be required. They should be commissioned in line with responsibilities as per the current Criminal Procedure Rules. These procedures also include the use of an experts' meeting. Other parallel procedures may also be happening, such as family court procedures, if there are any siblings who need safeguarding. It is important that all information sharing takes into account the protocols within *Disclosure of Information in Cases of Alleged Child Abuse and Linked Criminal and Care Directions Hearings*, 2013.⁴⁴ [S]

8.8 Arrangements should be made for the most appropriate professional(s) to meet with the family after the meeting, to give feedback from the discussion as soon as possible.

Normally this would be the lead health professional with the police investigator and/or a member of the primary care team. The family should be offered a letter or written report to summarise the findings. The local case discussion meeting should agree what information can be fed back to the family, how and by whom, and this should be agreed with the coroner. Normally it will be appropriate to feedback the full conclusions of the final case discussion, bearing in mind that the final conclusion on the cause of death is the responsibility of the coroner at inquest.^{25,27} [C]

- 8.9** At this stage, unless there are ongoing concerns, the conclusions of the local case discussion can be shared with the family. It is important, however, to stress that the decision on the final registered cause of death rests with the coroner, who will be informed by, but not bound by, the findings of the multi-agency investigation.^{2,21,22,45} This may also be an opportunity to obtain the wishes of the family with regards to the fate of organs and tissue that were retained during the post-mortem examination, if they have not already made their wishes known. [S]

9 The inquest and role of the coroner

- 9.1** Coroners are independent judicial office holders who have statutory duties to investigate deaths. The whole of England and Wales is divided into separate geographical jurisdictions, usually by grouping several local authorities together, and each is covered by a senior coroner and their team.^{21,22} [S]
- 9.2** Coroners, by virtue of their statutory duties, have a vital role in the investigation of sudden and unexpected deaths of infants and children, since most of these deaths will come under their jurisdiction.²² [S]
- 9.3** Coroners investigate deaths that are reported to them by medical practitioners (GPs or hospital doctors) and sometimes by the registrar of births and deaths. At present there are no statutory criteria for doctors reporting deaths to the coroner (sometimes known as referrals), but doctors are advised in the notes to the Medical Certificate of Cause

of Death to use the criteria that registrars must use. For details, see the Chief Coroner's Guidance No.23 *Report of Death to the Coroner*.⁴⁶ [S]

- 9.4** Under the Coroners and Justice Act 2009, when a senior coroner is made aware that the body of a deceased person is within that coroner's area, then the senior coroner must conduct an investigation into that person's death as soon as is practicable, if the coroner has reason to suspect that the death was violent or unnatural, that the cause of death is unknown or the deceased died while in custody or otherwise in state detention.²² [S]
- 9.5** This means that most sudden and unexpected deaths of infants are reported to the coroner by doctors. The coroner will then take initial legal possession of the body of the infant and open an investigation into the death.²² [S]
- 9.6** The body of the infant will pass to the legal custody of the coroner, either within a hospital or public mortuary, and the coroner will investigate the death with the aid of specialist coroner's officers and other appropriate professionals. This has the potential to cause immense distress to the grieving family and it is recommended that this is sensitively explained to them. This will then be followed up by the coroner's officer.²² [S]
- 9.7** It is the coroner who will order any post-mortem examination required, which in suspicious deaths will be in conjunction with the police.^{21,22} [S]
- 9.8** Following any examination, the body of the infant can usually be promptly released back to their family, for funeral arrangements to be put in place. [S]
- 9.9** Once the jurisdiction of the coroner is engaged, the coroner's officer is the main point of contact with the family. This contact should be timely, sensitive and regular. These investigations are often protracted by virtue of their complexity and some families need weekly updates, often by phone, others less so. Contact should meet each particular family's needs. Specifically, the family should be informed early of

the coroner's involvement, the need for and timing of any post-mortem examination, their right to be represented there should they so wish, whether an investigation or inquest has been opened so that they may attend any inquest opening, and the dates of any investigation reviews, pre-inquest reviews and inquests. They should be advised of any delays and that any inquest will be heard as soon as possible.^{22,45} [S]

- 9.10** The family should always be asked if they have any concerns in relation to the death of their infant, for example, in relation to any treatment or care that the infant may have received. [S]
- 9.11** The family should also be informed that inquests are public hearings, except in very limited circumstances, and that press and public often attend to listen to proceedings.⁴⁵ [S]
- 9.12** The family will be formally designated 'Interested Persons' for the purposes of the coroner's investigation, and as such will be entitled to appropriate disclosure from the coroner and to make submissions as to the conduct of the inquiry. During any inquest, the family will be entitled to ask relevant questions of witnesses, either in person or through a legal representative, and to make submissions on the law.^{22,45} [S]
- 9.13** The purpose of an inquest is laid down in statute. It is important to stress that it is not an adversarial process, instead it is an investigative court hearing to determine who was the person that died and how, when and where they came by their death, the medical cause of death, and certain personal particulars that are required for registering the death. In some cases, where it can be argued that the State may not have appropriately upheld a person's right to life, the remit broadens to encompass the circumstances in which the death occurred. The coroner will call and examine the evidence and, usually without a jury, record the answers to the questions listed above on a public document called the Record of Inquest. The family is always a central party in an inquest.²² [S]
- 9.14** Not all deaths reported to the coroner proceed to inquest, although most unexpected deaths of children do. In many cases the coroner may, as a result of preliminary inquiries, conclude that the death is from natural causes. In such cases

the coroner will not open a formal investigation (or hold an inquest). Instead, the coroner will sign the case off to the local registrar of births and deaths as a natural causes death on Form 100 A (without a post-mortem examination) or Form 100 B (with a post-mortem examination).²² [S]

- 9.15** If the coroner's duty to investigate a death is triggered (see paragraph 9.4 above), the coroner will open a formal investigation, which will usually lead to an inquest. Following an inquest the coroner will complete the Record of Inquest, which is a public document, and refer details of the coroner's findings and conclusions to the registrar on Form Rev 99. [S]
- 9.16** Once a coroner has opened an investigation or inquest, they will issue an 'Interim Certificate of the Cause of Death'. If the medical cause of death is known, the coroner will record it on the certificate. Usually this is not the case, and the cause of death is then simply recorded as 'the precise cause of death is not known', in line with the wording on such certificates for all coroners' cases in such a situation.²¹ [S]
- 9.17** The coroner has a duty under the law to make a finding as to the medical cause of death. If the medical cause of death is known following the inquest, it is recorded on the Record of Inquest and the Rev 99 form, and passed to the registrar. [S]
- 9.18** If the medical cause of death cannot be ascertained, it should be recorded on the Record of Inquest and Rev 99 as 'Unascertained'. If the coroner feels, however, that there is sufficient evidence to describe the death as a SIDS death, they could, if they wished, enter 'Unascertained (SIDS)' on the Record of Inquest (and Rev 99). This would accord with the collection of statistical data by the Office for National Statistics, which distinguishes between (i) Sudden infant deaths (R95) and (ii) Unascertained infant deaths (R99). R95 and R99 refer to the World Health Organization's *International Statistical Classification of Diseases and Related Health Problems, 10th Revision* (ICD-10) (see Appendix 8).⁴⁷ [S]

- 9.19** The coroner's inquiry is aided by many other agencies, including doctors, hospitals, police, social services, Local Safeguarding Children Boards (LSCBs) and pathologists. Some of these agencies may also become Interested Persons, for example, the police or the treating physician. The coroner must notify the LSCB if they decide to open an investigation or order a post-mortem examination of a person under the age of 18 years. [S]
- 9.20** All agencies, and indeed all individuals, who have pertinent information are under a duty to disclose this to the coroner in a fully unredacted format. The coroner has both common law and statutory powers to enforce disclosure.²² [S]
- 9.21** Some of the agencies and individuals will be Interested Persons to the coroner's investigation and as such, like the family, will be entitled to all relevant and appropriate disclosure from the coroner. The coroner has a statutory duty to disclose information such as post-mortem examination reports to LSCBs.⁴⁵ [S]
- 9.22** An agency or individual providing information to the coroner may request that that information is redacted before it is onward disclosed by the coroner to the Interested Persons in the case. In specific circumstances the coroner may agree to this, for example if the information is not relevant to the coroner's inquiry or release of it may compromise future criminal proceedings.⁴⁵ [S]
- 9.23** Because the duties of the coroner are engaged by the body of the deceased person lying within their area, these duties will arise in respect of children who die abroad of arguably unnatural or unknown cause and whose bodies are returned to England and Wales. The duties of the coroner do not arise if the child is buried or cremated abroad. The coroner taking responsibility will usually be the coroner covering the area to which the child's body is brought for funeral arrangements. The investigation of deaths that occur abroad is often difficult due to problems securing evidence. The Foreign and Commonwealth Office usually assists by making contact with

foreign authorities on behalf of the coroner, as the coroner has no power to summon evidence or witnesses outside England and Wales. [S] (See also point 10.8 below.)

9.24 Following the inquest, Interested Persons, including the family, may request a disc of the proceedings as recorded.⁴⁵ [S]

9.25 If, during the course of an inquiry, the coroner identifies matters that, if changed, may prevent future deaths, they have a duty to report these matters to agencies or individuals who they believe may have power to take such action.^{21,22} [S]

10 Child Death Overview Panels

10.1 The Child Death Overview Panel (CDOP) is set up to systematically gather comprehensive data on children's deaths, to identify notable and potentially remediable factors, and to learn lessons and make recommendations to reduce the risk of future child deaths. The statutory basis of the CDOPs is documented in *Working Together*.² [S]

10.2 The CDOP manager should be notified according to local protocol whenever an infant dies. For sudden unexpected deaths, this should be done following presentation by the lead health professional.² [S]

10.3 At the conclusion of the joint agency response, a copy of the report of the final case discussion should be sent to the CDOP manager for inclusion in the documentation compiled for the CDOP meeting. The CDOP manager should also be provided with other relevant documentation, including, where appropriate, completed forms B or C and the initial report to the coroner and pathologist.² [S]

10.4 The CDOP is a multi-agency panel that meets on a regular basis to review all children's deaths. Cases of sudden unexpected deaths should normally be scheduled for discussion at the CDOP after the conclusion of the full joint agency response, including the final case discussion and the coroner's inquiry.² [S]

- 10.5** The CDOP should review all relevant information provided on the case from the different agencies involved; it should consider any relevant contributory factors in each domain (factors intrinsic to the infant, parenting capacity, family and environment, service delivery) and form an opinion as to the relevance of such factors. The CDOP should form an opinion on the cause and category of the infant's death, and on whether they consider the death to have been preventable according to the definition in *Working Together*. The CDOP should consider any learning arising from their review and any appropriate recommendations. ^{2,43} [S]
- 10.6** Coroners have a duty to notify the LSCB when they make a decision to investigate an infant's death, and to share information with the LSCB. ^{2,21} [S]
- 10.7** Parents should be informed by the joint agency response team of the role and purpose of the CDOP, and offered the opportunity to submit information to the CDOP. ^{2,21} [S]
- 10.8** Each CDOP has the statutory duty to review the deaths of all children resident in their area, irrespective of place of death. When the death has taken place abroad, the local CDOP is advised to seek advice and help from the local senior coroner first; the CDOP may also need assistance and help from agencies abroad, including police involved in the investigation of the death of the child in question. [S]

11 Commissioning arrangements

- 11.1** In 2008, CDOPs were statutorily established in England under the aegis of the LSCBs, with responsibility for reviewing the deaths of all children under 18 years old in their resident population.² [S]
- 11.2** The Department for Education (DfE) in England, who have responsibility for safeguarding children, commissioned an external, fundamental review of the role and function of LSCBs.⁴⁸ This review, carried out by Alan Wood, was submitted to the Government and published on 26 May 2016.⁴⁹ The review recommended that responsibility for CDOPs should

move to the Department of Health; this recommendation has been accepted by the Government.⁵⁰ However, the details of the transfer and the transfer period have not been finalised [S].

- 11.3** As set out in the Local Safeguarding Children Boards Regulations 2006, LSCBs are responsible for reviewing the deaths of all children in their area and putting in place procedures to ensure a coordinated response by the authority, their Board partners and other relevant persons to an unexpected child death.² [S]
- 11.4** All registered providers of healthcare services have the duty to notify the Care Quality Commission of the death of a service user – **but NHS providers may discharge this duty by notifying NHS England.**⁵¹ [S]
- 11.5** These guidelines provide a framework for multi-professional identification, reporting and investigating sudden unexpected child deaths; the LSCBs have statutory responsibility for developing and implementing a coordinated approach in responding to these deaths as per agreed protocols. They have the responsibility to commission the resources required for the development of the required services and regularly audit and monitor the optimal functioning of the SUDI procedures in their population. [S]

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Appendices



Appendix 1

The police response to infant death

*This appendix is an abbreviated version of the ACPO (2014) guidance and excludes any areas already covered in these guidelines. Police investigators must, however, refer to the full guidelines during any investigation.*²⁶

1 Introduction

- 1.1 The investigation of the death of a child is an extremely complex area of police work, which is also very demanding on investigators in terms of emotional pressure on them. Children are not meant to die, and the police investigation into the sudden unexpected death of a child must be influenced by this basic fact. This means that even when there are no apparent suspicious factors, the police contribution to the investigation must be detailed and thorough.
- 1.2 The purpose of this guidance is to assist investigating officers in all cases of sudden unexpected death in children, whether or not there are any suspicious factors. In cases where there is suspicion that a crime may have been committed, this guidance is not to be used instead of the *Murder Investigation Manual (MIM)*,⁵² but as a supplement to that guidance. The College of Policing is responsible for holding investigative guidance and the current MIM will be converted into the College 'Approved Professional Practice' format in due course, but the approaches outlined will remain consistent.
- 1.3 The main difference when investigating the death of a child, as opposed to an adult, is that all three of the phases are carried out jointly, to varying degrees, with multi-agency partners. A sensitive yet controlled approach to scene preservation is crucial. A delicate balance often has to be adopted: investigating what could prove to be a natural death while minimising potential evidence loss if the case is subsequently found to be suspicious.
- 1.4 Investigating officers must be aware that, as the number of genuine unexpected deaths decreases, the proportion of all deaths that could be attributed to abuse could increase; education campaigns will not impact on all people who kill

children. Although high-profile cases capture much media and public attention, the true scale is unknown. It is widely stated that one or two children die each week in the UK at the hands of their carers.

- 1.5** When dealing with SUDC, investigators need to follow five common principles, especially when having contact with family members:
- a balanced approach between sensitivity and the investigative mindset
 - a multi-agency response
 - sharing of information
 - an appropriate response to the circumstances
 - preservation of evidence.
- 1.6** There is little doubt that a multi-agency approach is the best way forward to investigate child deaths, as recommended by Baroness Kennedy.¹ All Local Safeguarding Children Boards (LSCBs) have developed protocols to ensure that such investigations do have a multi-agency approach to them, as this is the best way to determine the cause of death and to assist in any future prosecutions.
- 1.7** Chapter 5 in *Working Together* provides overarching guidance for police and constituent agencies of LSCBs on how they collectively should investigate child deaths. This is statutory guidance and should be adhered to.²
- 1.8** When a child dies unexpectedly, particularly when abuse or neglect is a factor, several investigative processes may be instigated. The *Working Together* guidance intends that the relevant professionals and organisations work together in a coordinated way, in order to minimise duplication and ensure that the lessons learnt contribute to safeguarding and promoting the welfare of children in the future.²
- 1.9** It is intended that those professionals involved with a child who dies unexpectedly, whether their involvement was before or after the death, should come together to respond to the child's death.

- 1.10 Where there is a review process parallel to the criminal investigation, the investigating officer and the Crown Prosecution Service (CPS) should be involved in a discussion about the terms of reference and scope of the review in order to avoid prejudicing any criminal proceedings.
- 1.11 The police will be the lead agency for any criminal investigation. They should be informed immediately whenever there is a suspicion of a crime, to ensure that the evidence is properly secured and that any further interviews with family members and other relevant people accord with the requirements of *Achieving Best Evidence in Criminal Proceedings: Guidance on Interviewing Victims and Witnesses and Using Special Measures*,⁵³ and the Police and Criminal Evidence Act 1984.²⁹ The police will begin an investigation into the sudden or unexpected death of a child on behalf of the coroner.

2 Instigation: Who should attend a sudden unexpected death of a child?

- 2.1 If the police are the first professionals to attend the scene, urgent medical assistance should be requested as the first priority. The first responder should be an investigator in plain clothes and use an unmarked police car.
- 2.2 In all cases of sudden unexpected death in infancy or childhood, whether or not there are any obvious suspicious circumstances, a senior investigator should be tasked to immediately take charge of the investigation. It is recommended that the lead police investigator attends the location of the body to liaise with the lead clinician and other medical practitioners.
- 2.3 It is important that the environment where the child died is sensitively and carefully secured, pending the joint scene assessment.
- 2.4 If there is any reason to believe the death may be suspicious, an accredited senior investigating officer (SIO) should lead the investigation.

- 2.5** Early effective cooperation and liaison between police and paediatricians is very important. The paediatrician may also assist the investigating officer by collating relevant information from medical records, preparing reports for pathologists and convening a meeting among all medical professionals involved with the family.
- 2.6** It is recommended that the investigating officer is present when the paediatrician carries out the external examination of the child. Should any marks of interest or possible significance be noted, these should be recorded in detail by the lead clinician and photographed by the police.
- 2.7** The Kennedy Report¹ and *Working Together*² highlight that it is best practice for police and health professionals to carry out joint home visits. It is highly recommended that all forces adopt this model.
- 2.8** The investigating officer should ensure that the coroner is notified as soon as possible. The coroner will make use of their officer and their experience in dealing with sudden deaths and bereaved families will be invaluable in explaining to the family what will happen to their child's body and why. The Lullaby Trust has compiled a leaflet as a guide for families.

3 Preliminary assessment

- 3.1** It is important that the investigating officer takes an early view as to whether or not there are suspicious factors. The following key information from 'Risk factors for intra-familial unlawful and suspicious child deaths'⁵⁴ will be useful in making this judgement.
- 3.2** Factors that may increase suspicion:
- history of violence to children
 - inconsistent account
 - mental health issues
 - previous atypical hospital visits
 - history of alcohol abuse
 - child over 12 months

- on child protection plan
- known to social services
- history of drug abuse
- history of domestic violence
- criminal record
- previous sibling death.

4 Investigation: initial action

- 4.1** Investigating officers should always adopt an investigative mindset. Using investigative evaluations and developing hypotheses where necessary will help detectives to establish what has occurred.
- 4.2** The lead investigator should initially attend the location of the body, usually at the emergency department but occasionally at the scene of the death if the body has not been removed. In the latter case, they should make a visual check of the child and its surroundings, noting any factors as described above as suspicious. It must be established whether the body has been moved and the current position of the child should be recorded. They should identify potential scenes and preserve evidence, but it is not usually appropriate at this stage to seize bedding from, for example, cots.
- 4.3** In cases where the child has been removed to the emergency department, the lead investigator should deploy an experienced investigator to the premises where the death occurred. This investigator should conduct a basic assessment of the type of premises involved and whether there is any likelihood that potential evidence may be removed or destroyed. In many cases, scene security can be achieved by a low-key discreet presence, but if there is any danger that potential evidence might be lost, more robust scene preservation may be necessary. It is crucial that the death scene and all items therein are maintained as close to their original state as possible, pending a full scene assessment.

- 4.4 The lead investigator should meet the family, preferably with a paediatrician, and explain the process of the investigation.
- 4.5 Where the death of a child is considered suspicious, the SIO should consider the best way of obtaining an account from the child's carers. If they are suspects, then any decisions concerning voluntary attendance or arrest in order to interview under caution need to be considered and balanced. If there are no clear suspects, yet the death is considered suspicious, the carers and other people in the premises when the child died may well be significant witnesses and, where possible, their account should be recorded. All decisions about the status of carers and other people present when the child died should be recorded in the policy file.
- 4.6 The preservation of the death scene and the level of investigation should be proportionate and appropriate to the presenting factors. These should include end-of-life plans that may be in place for children with life-limiting medical conditions or terminal illness. Forces with hospices in their areas should have an advanced protocol in place.
- 4.7 If the death is clearly suspicious, full scene security should be implemented under the guidance of a crime scene manager.

5 Case management

In cases where there is no apparent suspicion

- 5.1 Medical staff often interview the family before the police arrive at hospital in an effort to establish the circumstances surrounding the child's collapse. This account should be sought by investigators as it may prove useful, should a different version be provided later or forensic evidence not support the account given.
- 5.2 The first notification to the police often occurs when the child is already at hospital. In such cases, consideration should be given to designating scenes, both at the hospital and at the location where the child was first discovered to be unwell.

- 5.3** Consideration must be given to evidencing any factors of neglect that may be apparent, such as temperature of scene, condition of accommodation, general hygiene and the availability of food or drink.
- 5.4** If articles have been kept for a while, they should be kept as presentable as possible and any official labels or wrappings should be removed before being returned. Items should be returned as soon as possible after the coroner's verdict or the conclusion of the investigation. The term 'investigation' includes any possible trial or appeal process.
- 5.5** A physical external examination should be undertaken by medical staff and police at the earliest possible stage in order to record any suspicious or unidentifiable marks. Any such marks should be recorded by a trained police photographer.
- 5.6** It is entirely natural for the family to want to hold or touch the dead child. Providing this is done with a professional present, such as a police officer, nurse or social worker, it should be allowed in most cases as it is highly unlikely that forensic evidence will be lost. If, however, the death has by this time been considered suspicious, the SIO and the coroner must be consulted, and their agreement be given, before the family is allowed to hold the child. Any physical contact must also be supervised by a discreet professional presence.
- 5.7** Hospitals often wish to supply bereaved families with a lock of hair, footprints or handprints. Police should only refuse these considerations if there is good reason to believe it would jeopardise the investigation, and it is highly unlikely that this would be the case. This is often best completed after the post-mortem investigation.
- 5.8** In all cases, the police should request that a paediatric pathologist or a pathologist with paediatric expertise carries out a post-mortem examination. A full skeletal survey should always be requested and also, where relevant, MRI scans. In cases where there are suspected head injuries, advice should be sought from a neuroradiologist on the additional benefits of carrying out a CT scan before the post-mortem examination takes place. These scans should be carried out

and interpreted by a paediatric radiologist, or a radiologist with paediatric expertise, to maximise the opportunity for the recovery and interpretation of the evidence.

- 5.9** Whether or not the post-mortem examination reveals physical signs of injury, it is important that extensive toxicological tests are carried out. This should be intelligence led and any medicines or drugs found within the death scene should be included in the screening. Investigators need to be aware that a basic toxicology screen may only test for common drugs of abuse, so they should provide the toxicologist with a list of all drugs found and any others that may be implicated in the death.

Where the death is considered suspicious

- 5.10** The investigative guidance contained in the MIM⁵² should be adhered to and the lead investigator must consider how to manage the information that the investigation generates. Good practice is to ensure that the guidance within *Major Investigation Room Standardised Administrative Procedures (MIRSAP)*⁵⁵ is adhered to, and the enquiry is managed on the Home Office Large Major Enquiry System (HOLMES) computer database.
- 5.11** Unlike many adult homicides where the cause of death is obvious and there are independent witnesses, the majority of child homicides require great reliance to be placed on circumstantial and expert medical evidence. The suspect is also invariably in or closely connected to the family, rather than a stranger. These investigations often take months to resolve due to the specialised nature of the forensic and medical tests.
- 5.12** Wherever possible, bereaved families should be kept up to date with all progress made during the investigation, unless this could compromise any intended police action. Care should be taken to avoid any duplication of effort, particularly in regard to any direct contact with the family. The communication strategy for families should be an agenda item at the rapid response meetings, also forming part of the family liaison officer (FLO) strategy.

5.13 In any case where the death is suspicious, a forensic post-mortem examination must take place if ordered by the coroner. If the Home Office pathologist does not have paediatric experience, they must work alongside a paediatric pathologist or pathologist with paediatric expertise to maximise the opportunity for the recovery and interpretation of evidence. Good practice is a joint Home Office and paediatric pathologist post-mortem examination. It is also good practice for the lead investigator to attend the post-mortem examination and not to delegate this task, due to the relevant medical information that will be considered.

Obtaining blood and urine samples

5.14 In many investigations into childhood death, any drug or alcohol content in the carer's blood may be significant when trying to determine the cause of death or any contributing factors. If a carer's ability to properly look after a child is impaired, this needs to be taken into consideration, and if there is evidence that a carer has taken illegal drugs this should be considered when an intelligence-led toxicology screen is requested for the child.

5.15 Deaths occur following a child sharing a sleeping location with a family member or other adult (for example, a bed or a sofa). The Serious Crime Act (2015)²⁶ has amended Section 1 (2)(b) of the 1933 Children & Young Persons Act³¹ to include any surface that may be used for sleeping, and extended the provision to include being under the influence of prohibited drugs as opposed to just alcohol. Therefore, where overlaying seems to be a causal factor, it is important that the connected adult supplies a blood sample for analysis. This is entirely voluntary on their part, but can, of course, rule out any suggestion that alcohol or drugs may have impaired their ability to care for the child.

6 Parallel proceedings

6.1 While police are investigating the death of a child, there may be a number of additional proceedings being carried out at the same time. The protection of other siblings is paramount, and there may be family court proceedings that make use of witnesses that could subsequently be required in the criminal

court. While this may be extremely concerning to a lead investigator, it can also be a positive situation with, for example, the medical evidence being rehearsed in a court setting. Use of this material can take place with the permission of the family court judge. The 2013 *Protocol and Good Practice Model* ('the Protocol') within *Disclosure of Information in Cases of Alleged Child Abuse and Linked Criminal and Care Directions Hearings* established clear guidelines on this.⁴⁴ The Protocol was prepared and issued 'with the support of the Association of Chief Police Officers (ACPO), HM Courts & Tribunals Service and the Association of Independent Local Safeguarding Children Board (LSCB) Chairs'.

6.2 In many cases of child homicide, it is likely that the LSCB will commission a serious case review (SCR) in accordance with Chapter 4 of *Working Together*.² The prime purpose of a SCR is for agencies and individuals to learn lessons to improve the ways in which they work, both individually and collectively, to safeguard and promote the welfare of children. The lessons learned should be disseminated effectively and the recommendations should be implemented in a timely manner so that, wherever possible, the changes required result in children being protected from suffering or being likely to suffer harm in the future.

6.3 It is also essential that investigators ensure they are fully aware of all the new requirements under the 'Better Case Management' principles of the Criminal Procedure Rules 2015,⁵⁶ which now govern all stages of the passage of all cases through the prosecution process. In cases of childhood death, the use of experts, especially medical experts, is particularly governed by these rules.

7 Training

7.1 Investigating officers, lead investigators and SIOs who respond to unexpected deaths of children should receive appropriate training.

- 7.2** An e-learning package for has been developed by the College of Policing with the National Police Chiefs' Council (NPCC), to assist all frontline officers in managing cases until a lead investigator arrives to take command. This is available from the National Centre for Applied Learning Technologies (NCALT). For those required to progress the investigation thereafter, this NPCC guidance recommends the modular 'Investigating Sudden Childhood Death' programme. This programme comprises two modules, each targeting a different aspect of the investigation of childhood death and a different category of investigator.
- 7.3** Module 1 is aimed at those who provide the initial senior detective response (recommended to be a detective inspector) to childhood death, in accordance with local protocols derived from Chapter 5 of *Working Together*² and this guidance, where the child's death initially presents as non-suspicious. The module provides students with the knowledge, understanding and skill to enable them to respond effectively to incidents of childhood death, thereby improving their ability to determine whether a crime might have been committed, and to secure an effective foundation for any potential homicide investigation.
- 7.4** Module 2 is targeted specifically at SIOs and provides additional capability, over and above their capability at Level 3 of the 'Professionalising Investigations' programme, to comprehensively investigate those cases of childhood death that are unexplained from the outset but are believed to be suspicious. Both modules examine the investigator's decision-making ability using developing case studies.
- 7.5** Each module can be delivered individually as standalone two-day training courses, or together as a complete four-day package.

Appendix 2

Factors that suggest a death may be suspicious

The following factors are not put forward as a definitive list but rather to highlight certain factors which, when considered together, may give rise to a higher level of suspicion and merit more detailed investigation. They should be considered in the overall context of the death and wider family environment. The presence of such factors may reinforce the need for an investigative forensic post-mortem examination. Similar factors are noted above in the police response section (Appendix 1, section 3).

- 1 Previous or ongoing child safeguarding concerns** within the family relating to this infant or to other siblings. This should include if any infant has been on a Child Protection Plan at any point.
- 2 Previous sibling deaths (for example, previous unexplained SUDI).** In such cases, an extended family history should be obtained and the circumstances and findings from both deaths should be reviewed, including consideration of genetic testing.
- 3 Delay in seeking help** without an adequate explanation and persistently missing appointments (for example, with a health visitor). Stressors such as debt, illness, economic and neighbourhood factors can increase risk.
- 4 Inconsistent explanations.** The account given by the parents or carers of the circumstances of death should be documented verbatim. Any inconsistencies in later accounts may be of concern, although it is important to bear in mind that some inconsistencies may occur as a result of the shock and trauma caused by the death. Explanations as to how injuries occurred should be placed under detailed scrutiny when:
 - a) the explanation changes with time or questioning
 - b) the reported cause was beyond the infant's development (for example, between the age of two and eight months, infants are not usually walking and therefore do not fall unaided; they can, of course, fall from a height)

- c) the explanation in relation to time of death is not supported, for example, where the presence of rigor mortis indicates that the infant has been dead longer than stated.

5 Unexplained injury, either on the body now or at previous medical visits. Any evidence of major bleeding or injury (cranial, bony, visceral or soft tissue) is suspicious unless proven otherwise. An examination of the infant should seek to establish the presence or otherwise of unexplained bruising, burns, bite marks or presence of blood, including:

- a) multiple bruises to the face, ears, limbs or trunk
- b) bruising to an immobile infant or atypical bruising that is out of context with the infant's development
- c) fingerprint bruises and linear bruises
- d) the frenulum – the narrow fold of mucous membrane preventing the lips from moving too far away from the gums – can be torn through such actions as force-feeding (but note that this could also happen during vigorous resuscitation)
- e) petechial haemorrhages may or may not be present with suffocation and their absence is not conclusive either way, but their presence should be noted and discussed with the paediatrician, ophthalmologist or pathologist
- f) blood around the mouth and nose
- g) a small amount of bleeding around the mouth and nose may be normal but the presence of frank blood should be treated with suspicion. Some pink frothy mucus around the mouth may be normal. However, in either case, medical opinion should be sought
- h) when on any other part of the body there are burns, scalds, bite marks or injuries to the bone; new or healing fractures; or drugs are present in the deceased infant
- i) a foreign body in the upper airway.

- 6 History of domestic abuse** within the family.
- 7 Evidence of past or present drug or alcohol abuse**, including if the parents or carers appear to be still intoxicated.
- 8 Evidence of parental mental health problems**, including fabricated or induced illness.
- 9 Neglect issues.** Observations about the physical condition of the infant and of the accommodation, general hygiene and cleanliness, the availability of food, adequacy of clothing and bedding, and temperature of the environment in which the infant is found are important. This will assist in determining whether there may be any underlying neglect issues involved.
- 10 Previous convictions of parents and carers, in particular violence to children.** The police at the information-sharing briefing will be able to give this information.
- 11 If the infant had a learning or physical disability, or a significant pre-existing medical condition.** A further indicator could be a socially withdrawn infant.
- 12 Abusive head trauma:**
 - a) These injuries present with non-specific symptoms ranging from apnoea, apparent life-threatening event (ALTE), seizures, unexplained drowsiness or 'sudden loss of consciousness'. An appropriate suspicious mindset can result in the identification of characteristic retinal haemorrhages on examination of fundi and subdural haemorrhages on CT scan.
 - b) Photographs of the retina for signs of haemorrhage may prove invaluable. An experienced paediatric ophthalmologist may be able to differentiate between a shaking haemorrhage and one caused by brain swelling due to other causes.

- c) During resuscitation, a screening test for blood clotting disorders should be carried out promptly as brain injuries will eventually cause a similar effect. A photographic record should be made of all injuries immediately, and again after 24 hours.
- d) The pathologist's opinion following post-mortem examination is important, as to whether documented injuries are consistent with abusive head trauma.

Further information

Comprehensive details to assist investigators can be found in:

- ACPO (2014) *A Guide to Investigating Child Deaths*²⁶
- Mayes J, Brown A, Marshall D. Risk factors for intra-familial unlawful and suspicious child deaths. *Journal of Homicide and Major Incident Investigation* 2010;6:77–96.⁵⁴

Appendix 3

National bereavement support organisations

(as of October 2016)

2 Wish Upon A Star

Tel: 01443 853125

Support@2wishuponastar.org

Immediate support, counselling and support groups for suddenly bereaved parents in Wales.

Cardiac Risk in the Young (CRY)

Tel: 01737 363222

cry@c-r-y.org.uk

Counselling for those affected by young sudden cardiac death.

Care For The Family

Enquiries: 029 2081 0800

mail@cff.org.uk

Provide parenting, relationship and bereavement support through events, resources, courses, training and volunteer networks.

Child Bereavement UK

Support and Information: 0800 02 888 40

support@childbereavementuk.org

Support for bereaved parents on helpline. Face-to-face support groups in Bucks, Milton Keynes, West London, Newham, Cheshire, Carlisle & Eden and South Lakeland.

Child Death Helpline

Helpline: 0800 282 986; from a mobile: 0808 800 6019

contact@childdeathhelpline.org

A free helpline staffed by volunteer bereaved parents for all those affected by the death of a child.

Child Funeral Charity

Enquiries: 01480 276088

enquiries@childfuneralcharity.org.uk

Assists families financially in England and Wales for funeral expenses for under 16s (excluding headstones or funeral plots).

Cruse Bereavement Care

Helpline: 0808 808 1677

www.cruse.org.uk

Helpline and face-to-face support for bereaved people.

SANDS (Stillbirth and Neonatal Death Charity)

Helpline: 020 7436 5881

helpline@uk-sands.org

Stillbirth and neonatal death charity, providing a helpline and support groups.

Scottish Cot Death Trust

Enquiries: 0141 357 3946

contact@scottishcotdeathtrust.org

Scottish charity supporting families and providing professionals with education and information on sudden unexpected death in infants and pre-school children.

TAMBA (Twins and Multiple Births Association)

Twinline: 0800 138 0509

asktwinline@tamba.org.uk

Helpline, support groups and advice on raising multiples.

The Compassionate Friends

Helpline: 0345 123 2304

Northern Ireland helpline: 028 8778 8016

helpline@tcf.org.uk

Supporting bereaved parents and their families after a child dies.

The Coroners' Courts Support Service

Helpline: 0300 111 2141 (office hours)

or 020 3667 7884 (answerphone)

info@ccsupport.org.uk

A registered charity whose volunteers give emotional and practical support to families and other witnesses attending inquests at 30 coroners' courts around England.

The Lullaby Trust

Helpline: 0808 802 6868

support@lullabytrust.org.uk

Specialist support for bereaved families and anyone affected by a sudden infant death.

Winston's Wish

Helpline: 08452 03 04 05

info@winstonswish.org.uk

A childhood bereavement charity in the UK offering practical support and guidance to bereaved children, their families and professionals.

Appendix 4

Examination of the infant who has died suddenly and unexpectedly

These notes will be based on evidence where possible,⁵⁷⁻⁶⁰ and will show the grade of evidence used. A consultant in paediatric emergency medicine or a general paediatrician should carefully and thoroughly examine the infant immediately after death is confirmed. The lead investigator will witness the examination.

The deceased child should be re-examined where practicable to note any external marks that might have not been present on initial examination, particularly if trauma is being considered as a possible causative factor in the child's death.

General examination

Document the position the infant was put to sleep and found (prone, side or supine).

Document the presence of frothy fluid, an admixture of air and seromucous discharge. It is commonly bloodstained and present around the nose or mouth.

Document the presence of blood or vomitus on clothes or body.

Note the state of general nutrition and whether there are any signs of dehydration.

Weigh and measure the infant, noting length and head circumference. Plot the measurements on a centile chart and check against the measurements plotted in the Personal Child Health Record ('Red Book'), when this is available.

Note the presence of sites of attempted vascular access and document the presence of intraosseous needles, intravenous cannulae, an endotracheal tube or a chest drain. These should not be removed until there has been discussion with the police and coroner.

Check for dysmorphic features, abnormal skin creases and birthmarks.

Record the infant's rectal temperature using a low-reading thermometer as soon as practicable after death has been confirmed and, where possible, an hour later. The estimation of time of death using body core temperature readings is an inexact science, even amongst experienced

forensic pathologists, particularly for infants and children, influenced by the temperature of the body and ambient temperature. [C]

Rigor mortis

At the time of death, the body is flaccid until the muscles stiffen in rigor mortis due to the cessation of glycolysis. It is first detectable in the muscles of the eyelids, neck and jaw between 2 to 6 hours after death in adults, and spreads to the arms, legs and trunk within the next 4 to 6 hours. [C]

The rate of appearance (and disappearance) of rigor mortis is dependent on many factors, including the temperature of the body before death, the ambient temperature and muscle mass. Thus, the extent of rigor mortis cannot be relied upon to estimate the time of death. In infants, it may occur rapidly and be imperceptible due to small muscle mass. [C]

Lividity

Lividity, or the red-purple colouring of the skin, appears on dependent parts of the body due to the gravitational pooling of blood after circulation has ceased. This may be first noted within 30 minutes to 2 hours, and reaches its maximum at about 5 hours.

It first appears as small, round patches that may resemble bruises to an untrained observer. These change shape and size, then coalesce over the next 2 or so hours to emerge in the overall pattern, with horizontal margins and bloodless zones due to tight clothing or contact pressure. Areas of contact pressure will be recognisable as an area of pallor, for example, on the nose and cheeks in an infant who was face down at the time of death. Record the presence and distribution of lividity and any areas of contact pressure (compression marks).

External marks or injuries

Describe any external marks, bruises, petechiae, abrasions (scratches, grazes), lacerations, bite marks, incisions or identifiable injuries such as burns, ligature marks or patterned injuries. Number and measure each mark and draw on a body map.

Palpate the scalp for the presence of swelling or depression.

Examine the mouth and inspect the upper and lower labia frena and the sublingual frenum where possible. (This may be difficult if there is rigor mortis).

Bruises

Non-intentional bruising is very uncommon in premobile infants, occurring in around 2% of infants. Bruising increases in frequency as infants become mobile, occurring predominantly below the knees and in a 'facial-T' distribution across the forehead and bridge of nose, as a result of slips, trips and falls. [B] Non-intentional bruising rarely occurs on the ears, neck, genitalia, buttocks, hands and front of trunk.

Consider intentional bruising if the infant was premobile, the bruising is located away from bony prominences and on the ears, neck, genitalia, buttocks, hands and front of trunk, and occurring in clusters. The implement used may have left an imprint. [C]

Abrasions

An abrasion is a superficial injury involving only the outer layers of the skin or mucous membrane (for example, gums), which does not extend to the full thickness of the outer layer (epidermis). It is the result of friction or contact between the surface of the skin and a rough surface with sufficient force to cause trauma to the epidermis but not through it. An abrasion can be either linear (scratch) or brush (graze). [C]

Lacerations

A laceration is a wound made by blunt force splitting the full thickness of the skin or mucous membrane. They are generally ragged and tend to gape. The margins are usually abraded and may also be bruised. Occasionally the margins are shelved or flaps of skin are produced by a shearing blow, the direction of which can be deduced. Tissue bridges may be exposed in the depth of the wound.

Incisions

Incisions are wounds caused by sharp cutting instruments. The margins tend to be straight, unbruised and without abrasion, unless a blunt instrument such as scissors are used. Incisions from self-harm tend to be superficial, multiple and parallel. [C]

An incision is usually longer than its width or depth. The exception is stab wounds, where the depth is greater than width or depth. They may be associated with defence injuries, such as bruising on the extensor and ulnar surfaces of the forearm and hands. [C]

Bite marks

Many human bites are not recognised and are interpreted as bruises. A human bite mark is a 2–5 cm oval or circular mark made up of two opposing concave arcs, with or without associated ecchymosis. [B] Any such annular mark should be treated as suspicious for a human bite mark. A forensic odontologist should be involved in the investigation early and photography arranged.

Animal bites from dogs, cats and rodents are far more common than human bites, and usually tear rather than compress flesh. Domestic dogs have four prominent canine teeth that are considerably longer than the incisor teeth. A dog bite mark consists of opposing pairs of triangular or rounded puncture wounds from the canine teeth. [C]

Petechiae

The presence of petechial haemorrhages scattered sparsely on the forehead, face, on the front of the neck and on the inner and outer surfaces of the eyelids and conjunctivae may be a sign of asphyxia. In a florid case, they may be widely distributed over the head and upper trunk. Subconjunctival haemorrhages may also be seen.

Burns

Contact burns are clearly demarcated, in shapes that mirror the agent (for example, a triangular outline of the base of a domestic iron). They can be single or multiple and co-exist with other injuries. Intentional cigarette burns are clearly defined, circular, 0.5–1 cm, deep-cratered, full-thickness burns that will leave a scar with a hypopigmented centre and a pigmented rim. [C]

Cigarette burns are regarded as inflicted lesions, although there is a dearth of comparative studies of inflicted and accidental cigarette burns. Contact burns in unusual locations, such as the buttocks, feet and back of the hands, raise suspicion of intentional injury. [B]

A scald with a symmetrical, stocking-glove distribution on the lower limbs, and sometimes on the upper limbs, is due to forced immersion of the affected limbs in hot water. Spill scalds from hot beverages usually occur on the neck and upper trunk, and have an irregular outline, with varying depth. [B]

Burns from moxibustion sticks (traditional healing method) are usually located around the umbilicus, back and lower rib cage, dorsum of wrists and temple. [C] They are usually around 0.5–1 cm and roughly circular. Burns from cupping are annular, measuring 6–8 cm diameter and superficial.

Ligature marks

Forensic pathologists have described a clear distinction between the appearance of ligature marks from hanging and suffocation. In hanging, the marks are continuous and oblique, sloping upwards towards the highest point of suspension, usually at the back of the head. In suffocation, the marks are horizontal and discontinuous. In both, the pattern of any fabric causing the mark might be discernible. [B] If deliberate, grip marks might be seen.

It is important to describe any marks accurately. The pathologist has the necessary skills and experience to determine the cause.

Examine the external genitalia and anus

Anal examination

Post-mortem anal dilatation is seen from loss of muscle tone in the primary flaccidity stage in around 75% of children, and is regarded as a normal finding, in the absence of perianal lacerations or scars. [B]

Midline anal scars can be confused with the median raphe. The finding of a perianal scar or anal tag (outside the midline) implies previous trauma to the area. Penetrative sexual abuse therefore should be considered. [B]

Female external genitalia

Penetrative sexual abuse should be considered in females where there is a complete hymenal transection, a sign of healed trauma or, in prepubertal girls, complete absence of the hymenal rim. [B]

If any signs point to possible penetrative sexual abuse, notify the consultant paediatrician on call for child sexual abuse.

Fundal examination

Where possible, examine the eyes by direct fundoscopy for the presence of retinal haemorrhages. If present, request ophthalmological review as their presence, in large numbers and throughout all layers of the retina, is indicative of abusive head trauma. [A] The pathologist must be notified of this finding so that the eyes can be preserved intact for expert pathological examination.

Corneal cloudiness may appear within 2 to 3 hours with the eyes open, and may be delayed for many hours with the eyes closed. Fragmentation or segmentation (trucking) of the blood column occurs within minutes of death and persists for about an hour, when the disc becomes pale. Do not attempt to estimate the time of death by these appearances.

Clinical photography

Where the death of a child is considered suspicious, the lead investigator should consider the best way of obtaining photographs of any visible, apparent injuries. A right-angled measurement scale should be used.

Confirmation of death after cardiorespiratory arrest

Adapted from *Code of Practice for the Diagnosis and Confirmation of Death. Academy of Royal Colleges, 2008.*⁶¹

The infant is observed by the doctor responsible for confirming death for a minimum of 5 minutes, to establish that irreversible cardiorespiratory arrest has occurred (absence of central pulse on palpation, absence of heart sounds, asystole on continuous ECG trace).

After 5 minutes of cardiorespiratory arrest, the absence of pupillary reflexes and of any motor response to supraorbital pressure is confirmed.

The time of death is recorded as the time at which these criteria are fulfilled.

Appendix 5

Proforma for history, examination of the infant and scene examination

Introduction

The importance of the history being taken by an experienced paediatrician, with knowledge and understanding of the care of infants and sensitivity to the needs of the family, cannot be over-emphasised. Police investigators with special expertise and training in investigation of infant death may also be present at the visit.

This list is meant as a guide. It cannot be comprehensive, as additional specific questions may arise as a consequence of information given by the family.

Encouraging the family to talk spontaneously, with prompts about specific information, is likely to be better than trying to collect a structured history in the more usual way. In recording the family's accounts of events, it is important to use their own words as far as possible – ideally, information should be recorded *verbatim*.

Much of the information is very sensitive. Families may feel very vulnerable when asked about their sleeping arrangements, alcohol intake or drug use, so great skill is needed in asking the questions in a non-threatening way, with no implication of value judgment or criticism. Families may ask directly if their alcohol intake has contributed to the infant's death; it is very important that the interviewer does not jump to conclusions about such questions, while not being dishonest when asked direct questions.

While most of the medical and social history will be obtained during the initial discussion with the family in the emergency department, a very careful and detailed account of the final 24 to 48 hours will almost always be considerably supplemented by information collected at the time of the initial home visit and close examination of the circumstances of death.

The home interview and visit to the place where the infant died can be very difficult, but may also be of great value in understanding the sequence of events leading to the death. Families commonly find this home interview, while stressful and sometimes painful, very helpful. The fact that the paediatrician is willing to spend this time with them, helping to understand what has happened to their infant, may in itself be very important to the family and many questions commonly arise out of this visit (particularly in relation to factors that may have contributed to the death).

At the end of the interview, it is essential that the paediatrician spends some time with the family ensuring they know what will happen next, when they will next be contacted by the paediatrician, when and where the post-mortem examination will take place, and how they will be informed of the preliminary results.

Time will also be needed for the paediatrician to help the family deal with the very powerful emotions that are commonly brought out by this discussion. If conducted sensitively and with awareness of the family's needs, this interview can have a therapeutic 'debriefing' value for the family – commonly allowing them to talk about some of their feelings for the first time. Families have commonly reported that this home visit has been an extremely important and very positive aspect of their care.

A History proforma

1. Identification data

Name of infant

Sex M/F

Date of birth

Ethnicity

Address

Postcode

Date of death

Name of father (+ address if different from infant)

DOB

Name of mother (+ address if different from infant)

DOB

Name of partner (if relevant + address)

DOB

Consanguinity (degree of relatives)

GP name and address

Consultant

SUDI consultant

Police lead investigator

Social worker

Coroner/coroner's officer

Other professionals

2. Details of transport of infant to hospital

Place of death: Home address as above / Another location (specify) / DGH (specify)

Time found:

Time arrived in emergency department:

Resuscitation carried out? Y/N

At scene of death / ambulance / emergency department

By whom? carers / GP / ambulance crew / hospital staff / others (specify)

Confirmation of death

Date Time

Location By whom?

3. History

Taken in emergency department by:

Taken at home visit by:

History given by:

Relationship to infant:

Events surrounding death:

Note:

Who found the infant, where and when; appearance of the infant when found

Who called emergency services

When infant was last seen alive and by whom

Details of any resuscitation at home, by ambulance crew and in hospital

For accidental/traumatic deaths: details of circumstances around the death; witnesses

Detailed narrative account of last 24–48 hours

To include details of all activities and carers during last 24–48 hours

Any alcohol or drugs consumed by infant or carers

For SUDI, include details of last sleep including where and how put down, where and how found, any changes; details of feeding and care given

Details of when last seen by a doctor or other professional

Further details of previous 2–4 weeks, including infant's health, any changes to routine

Family history

Details of all family and household members, including names; dates of birth; health; any previous or current illnesses including mental health; any medications; occupation

Maternal parity and obstetric history

Parental relationships

Children, including children by previous partners

Household composition

Any previous childhood deaths in the family

Past medical history

Of the infant, to include pregnancy and delivery; perinatal history; feeding; growth and development

Health and any previous or current illnesses; hospital admissions; any medication

Routine checks and immunisations

Systems review

Behavioural and educational history where appropriate

Social history

Type and nature of housing; any major life events

Any travel abroad

Wider family support networks

Any other relevant history

May vary according to the age of the infant, nature of the death

Information retrieved from records

Hospital, GP, health visitor, midwife, NHS Direct, etc. (include family-held records such as the Personal Child Health Record ('Red Book'))

Ambulance crew

Social services, databases, case records, child protection register

Police: intelligence, assist, Police National Computer, domestic violence, etc.

C Scene examination proforma

Infant's name

Date of birth

Date of death

Address

Date of scene visit

Persons present

Room

Note:

Size, orientation (compass), contents, 'clutter'

Ventilation: windows and doors (open or shut)

Heating (including times switched on/off); measure drawer temperature °C

Sleep environment

Note:

Location, position of bed/cot in relation to other objects in room

Was the infant sleeping on a sofa, floor or elsewhere?

Mattress, bedding, objects

Position of infant

When put down; when found

Any evidence of over-wrapping or over-heating?

Yes/No

Any restriction to ventilation or breathing?

Yes/No

Any risk of smothering?

Yes/No

Any potential hazards?

Yes/No

Any evidence of neglectful care?

Yes/No

Diagram of scene

Note:

North/south orientation; room measurements

Location of doors, windows, heating

Any furniture and objects in the room

Appendix 6

Post-mortem examination protocol for sudden unexpected deaths in infancy (non-suspicious)

Scope of recommendations

- 1 These guidelines are intended to represent the minimum usual practice for non-suspicious infant and child deaths investigated by paediatric pathologists. In cases of suspicious, 'special' or forensic post-mortem examinations in this age group, the examination should be performed by paediatric and Home Office-accredited forensic pathologists. In such cases, while many aspects will be similar, additional procedures will be required, such as detailed photographic record keeping, examination for subcutaneous trauma or samples for forensic testing, which are beyond the scope of this guidance.
- 2 Since all post-mortem examinations in SUDI should be performed by specialist pathologists with current expertise in the area, this section is intended to provide guidance on generic issues regarding the examination. It is not intended to provide a detailed step-by-step guide to performing such examinations.
- 3 See The Royal College of Pathologists' *Guidelines on Autopsy Practice: Sudden unexpected deaths in infancy* for further guidance (in preparation, 2016).⁶²

The role of the post-mortem examination

Post-mortem examinations in the setting of SUDI are performed on behalf of the coroner, therefore their role is to establish the cause of death and to address the issues related to the circumstances of death, in particular:

- whether the death is attributable to a natural disease process
- to consider the possibility of accidental death
- to consider the possibility of asphyxia/airway obstruction
- to consider the possibility of inflicted injury
- to document the presence or absence of pathological processes, and to determine how the death came about.

It should be noted that the interpretation of the extent of investigation required to address the points above may vary according to coronial jurisdictions and hence, while recommendations are provided here for a suggested protocol, specific local practice may vary. The extent of investigation in individual cases should be discussed with the coroner involved.

In addition, the expectations of what information the post-mortem examination will provide may significantly differ between the coroner, the police, the family and other interested parties such as child protection agencies and researchers, but the primary aim of the post-mortem examination in SUDI is to aid the coroner in coming to a decision regarding how the death came about.

Note that factors that may have caused or contributed to the death and would thus, if found, also appear on the death certificate, are also relevant and should be considered as part of the examination, within reason (Sections 5 and 10 of the Coroners and Justice Act 2009).²² [S]

Clinical information relevant to the post-mortem examination

Prior to starting the post-mortem examination, the pathologist should have available a comprehensive history and report on the circumstances of death. This is essential both to aid interpretation of findings that may provide a cause of death, and to identify suspicious features that may indicate the need for a special or forensic examination (see police response section above: Appendix 1, section 3).

Ideally, available information should include:

- detailed history, including details of pregnancy, delivery, post-natal history, ante-mortem history and precise circumstances of death, including family history such as previous sibling deaths, consanguinity, drug use and sleeping arrangements
- event-scene investigation report from paediatrician and/or police investigators, if available
- report of the coroner's officer
- relevant GP records
- reference to the child protection register

- reference to resuscitation procedures
- results of examination by a consultant paediatrician
- results of skeletal survey or other post-mortem imaging
- details of any investigations performed in the emergency department, and any results available to date. All results from such investigations should be reviewed by the pathologist as well as by the designated paediatrician for unexpected deaths in childhood. [C]

The post-mortem examination procedure

Note that the post-mortem examination procedure, including the extent of sampling and ancillary investigations, may vary according to the specific clinical circumstances, with more extensive sampling or ancillary testing being performed where particular indications exist. The procedure suggested below represents the minimum recommended level of investigation in the majority of cases, but each case should be assessed on an individual basis regarding the extent of additional investigations.

Unless stated otherwise, all recommendations are based on perceived best practice [C]. Where specific peer-reviewed published evidence exists for a statement, the reference is provided.

- SUDI post-mortem examinations should be performed by a specialist paediatric pathologist with training in this area.
- If there is any suspicion of abuse contributing to the death, a joint post-mortem examination with a forensic pathologist should be carried out (see section 7.1 of main report above).
- Consider close adherence to the rules of evidence from the outset of involvement (for example, identification and corroboration of evidence).
- Specific examination for evidence of injury should be documented prior to commencing the post-mortem examination (including a full skeletal survey or other appropriate post-mortem imaging, reported by a radiologist with specialist expertise in this area).
- The post-mortem examination should include appropriate detailed external and internal examination, with consideration of photography or other documentation of findings.

- If any previously unsuspected features suggestive of inflicted injury or abuse are identified during the procedure, the examination should cease and the coroner and police should be informed.
- All major organ systems should be systematically examined until a cause of death can be established or reasonably excluded. If a clear cause of death is identified (for example, unsuspected congenital cardiac disease), it may not be necessary to examine further all other organ systems, depending on the circumstances; the extent of examination should be agreed between the pathologist and the coroner overseeing the case.
- The precise approach, method and sequence of the examination should be determined by the pathologist involved in the case.

Organ retention

In general, if the clinical history and pathological findings require any particular organ to be retained by either the paediatric pathologist or specialist colleagues for further assessment to determine the cause of death, this should be discussed with the coroner's office. This may necessitate a delay in the funeral arrangements to allow return of the organ(s) to the body after fixation and sampling.

If organ retention is required, the family should be kept informed and their wishes obtained regarding the fate of such material. As mentioned earlier, where their wish is that the organ be kept for future use, it should be clear what that future use might be and which of the family has given their consent.

If the family has given consent for organs or tissues to be retained for research purposes, these may be retained (with the agreement of the coroner).³² [S]

Note that in special or forensic cases, retention of organs may be required for determination of cause of death and evidential purposes, but this is outside the scope of this document. However, the family should be kept clearly informed in all cases.

Tissue samples for histological examination

It is considered best practice to sample all major organs for histological examination in order to reasonably exclude identifiable causes of death. There is published evidence demonstrating the importance of histologically sampling the heart, lungs, liver and kidney, regardless of their macroscopic appearance, along with any macroscopically abnormal organ or where there is a preceding clinical history of disease, for determination of cause of death.

Histological examination of other macroscopically normal organs other than the heart and lungs rarely contributes to the cause of death, but may be useful for excluding specific pathologies and determining further how the death came about. In addition, histological sampling provides material for possible future assessment, research and other indications.

The list below is therefore based on previous protocols, but the final decision regarding the extent of sampling should be decided by the pathologist on a case-by-case basis.⁶³ [B]

- Each lobe of both lungs
- Heart (free wall of left and right ventricle, interventricular septum)
- Kidneys
- Liver
- Thymus
- Pancreas
- Spleen
- Lymph nodes
- Adrenal glands
- Costo-chondral junction of a rib, to include bone marrow sample
- Muscle
- Samples of any lesions, including fractured ribs
- Brain: four to six blocks including cerebral hemisphere, brainstem, cerebellum, meninges and spinal cord; dura if there is haemorrhage*
- Other as specifically indicated.

* The role of brain retention for formal neuropathological examination in the absence of neurological history or macroscopic/imaging abnormalities remains controversial. Routine neuropathological examination in cases with none of these factors has a low yield for determining significant pathology relevant to the cause of death, but in all cases of SUDI, inflicted injury must be excluded. The decision whether to retain the brain for fixation and the extent of examination in such cases should therefore be determined by the pathologist on a case-by-case basis.⁶⁴ [B]

Other samples required (if not already taken in the emergency department)

- Bacteriology (blood, cerebrospinal fluid, respiratory tract, spleen, any infective lesion). (The yield of pathological organisms appears to be broadly similar from the emergency department and post-mortem examination sampling, with no significant effect of post-mortem interval over the usual post-mortem interval period.³⁸ [B]) However, certain organisms such as Pneumococcus are sensitive to cold and may be killed by refrigeration of the body after death. Hence, whenever possible, cultures should be obtained in the emergency room as well as at autopsy and the results of these cultures should be sent to the paediatrician and pathologist.
- Virology (lung, cerebrospinal fluid and other, such as faeces or swabs, if indicated) for appropriate nucleic acid-based testing, depending on site and clinical scenario.
- Consider agreeing protocols with local medical microbiology departments regarding techniques appropriate to the post-mortem examination setting and interpretation of findings. [C]
- It should be noted that there remains uncertainty and variation in the interpretation of post-mortem microbiology findings and each case should be interpreted in context.⁴⁰ [B]
- Biochemistry (urine if present, and blood and bile spots on Guthrie card for metabolic testing if indicated, such as acylcarnitine and amino acid analysis, and other tests as indicated by clinical findings). This should be done immediately if metabolic disease is clinically suspected or if fat stains on frozen sections are positive. This is mandatory in sudden unexpected early neonatal deaths.⁶⁵ [B]

- Frozen section – stained with Oil Red O for fat on heart, liver, kidney and muscle.
- Consider toxicology on a case-by-case basis following discussion with the coroner (peripheral blood, whole unpreserved in fluoride bottle, urine, sample of liver, stomach content; request an illicit drug or alcohol screen, specify other drugs as indicated from the history).
- Skin sample for possible fibroblast culture in all cases where metabolic disease is suspected (consider a frozen skin sample as an alternative).
- Additional ancillary investigations – the role of further routine ancillary investigations, such as immunohistochemical staining, remains uncertain, but additional investigations should be determined at the discretion of the pathologist handling the case.
- Genetic testing, including whole-genome sequencing, is likely to become increasingly possible in the future, and may provide additional likely causes of death in some cases (for example cardiac ion channelopathies). However, interpretation of such findings for determining the cause of death remains difficult and any form of genetic testing may additionally have implications for other family members. Such genetic testing to determine cause of death should only be carried out following discussion with the coroner, with the family's consent, and in the setting of appropriate healthcare follow-up. The potential cost implications of introducing genetic testing remain undetermined.

The results of tests taken at autopsy should be considered with those taken in the emergency department, and should be included and interpreted in the post-mortem report as appropriate.

Role of less invasive post-mortem examination in SUDI

Less invasive post-mortem examination approaches based on post-mortem imaging using MRI, CT or other methods may provide information regarding the likely causes of death in childhood, but their role in SUDI investigation remains undetermined.⁶⁶ [B]

However, in most cases, histological or other investigative confirmation of disease process will be required, necessitating organ sampling. At present, there is insufficient evidence to determine whether less invasive methods provide adequate diagnostic yield compared to standard open sampling.

In some cases, post-mortem imaging may indicate a clear focus of pathology that can be confirmed by limited tissue biopsy, and in such cases no further examination may be required. However, this depends on the circumstances of the case and should be at the discretion of the pathologist and the coroner on a case-by-case basis.

In cases with any possible suspicious circumstances, a full forensic post-mortem examination should be performed in order to gather appropriate evidence. In such cases, post-mortem imaging prior to examination may provide useful additional information regarding disease or trauma, and may help to guide the examination.

Clinicopathological summary and report

The post-mortem examination report should:

- summarise the clinical history and main pathological findings
- consider whether the pathology satisfactorily explains the clinical circumstances of the death
- consider whether there are features indicating a familial or genetic disease requiring screening and counselling of the family
- consider whether there are features sufficient to suggest inflicted injury or neglect.

If a complete and sufficient natural explanation of the death is identifiable at the initial post-mortem examination, the coroner must be informed of this and usually no inquest will be required.

If, during the initial post-mortem examination, findings emerge that clearly identify neglect or inflicted injury as the most likely explanation for the death, the coroner must be immediately informed and the police will become the lead investigating agency. The provisions of normal criminal investigations will be set in motion, including the requirements of the Police and Criminal Evidence Act 1984.²⁹

If, in the light of initial post-mortem examination findings (including careful consideration of the circumstances of the death), there is no clear or sufficient natural cause of death, the initial conclusion regarding cause of death should be provided to the coroner as 'undetermined pending further investigation'.

In these circumstances, the continued close cooperation of all agencies will be of great importance, and the nature and content of any further investigations by the police or social services department will be determined by the strategy discussion immediately after the initial post-mortem examination results are available.

The report must include details of any samples taken or kept and instructions for their further retention or disposal, as authorised by the coroner and the wishes of the family, and according to the Human Tissue Act 2004.³²

A full report, including the results of all further investigations undertaken (for example, histology, microbiology, toxicology, radiology, virology, histochemistry, biochemistry or metabolic screening of blood or other samples), should be prepared and made available to the coroner and to the multi-professional local case discussion meeting, usually held 8 to 12 weeks after the death and chaired by the DPCD.

The pathologist may be required to attend and take part in the multi-professional local case discussion meeting.

Appendix 7

The Avon clinicopathological classification of sudden unexpected deaths in infancy³⁷

This grid is completed at the multi-disciplinary case discussion meeting.

An entry must be made on the line of each heading and a score (0 to III) accorded to each line, as agreed by all professionals present.

The overall score is generally equal to the highest score within the grid.

A score of III equates to a complete and sufficient cause of death.

Scores of I to II meet the definition of SIDS/unexplained SUDI.

Classification	0	I	II	III
Contributory or potentially 'causal' factors	Information not collected	Information collected, but either no factors identified, or factors present but not likely to have contributed to ill health or death	Factor present, and may have contributed to ill health or death	Factor present, and provides a complete and sufficient cause of death
History (note 1)				
Examination (note 2)				
Death scene examination (note 3)				
Pathology and other investigations (note 4)				
Other (specify)				
Other evidence of neglect or abuse				
Overall classification (note 5)				

Notes

- To include a detailed history of events leading up to the death, together with medical, social and family history, plus an explicit review of any evidence suggesting past neglect or abuse of this infant or other children in the family.
- External examination of the infant, to include post-mortem changes and any indicators of injury or pathology.
- Results of a detailed review of the scene of death by the paediatrician and police child protection officer, in light of the history given by the family.
- Pathological investigations to a standardised protocol as suggested, to include gross pathology, histology, biochemical and microbiological investigations, radiology and, where indicated, toxicology.
- This will generally equal the highest individual classification listed in the grid.

Appendix 8

Terminology for sudden unexpected death in infancy and childhood

It is recognised that the terminology used by HM Coroners serves a legal purpose, whereas the terminology used by pathologists, paediatricians and others involved in child death review may have different purposes, including understanding of epidemiological and mechanistic factors.

Various clinical terminologies may be used by pathologists and paediatricians (see table) but it is recommended by the Chief Coroner that coroners should continue to use the word 'unascertained' where the medical cause of death has not been identified and proved.

Pathologist/paediatrician/MDT term	Coronial term 1a Medical cause of death
Unascertained	Unascertained
Unexplained	Unascertained
Sudden unexpected death in infancy (SUDI), unexplained	Unascertained
Sudden unexpected death in infancy (SUDI), undetermined	Unascertained
Sudden unexpected death in infancy (SUDI), co-sleeping associated	Unascertained
Sudden infant death syndrome (SIDS)	Unascertained
Sudden unexpected death in childhood (SUDC), unexplained	Unascertained
Sudden unexpected death in childhood (SUDC), undetermined	Unascertained

Note: Reference to SIDS (ICD-10 R95) may be used where the coroner is satisfied that there is sufficient evidence to describe the death as a SIDS death: 'Unascertained (SIDS)'.⁴⁷

The use of 'accidental asphyxiation', although sometimes used based on specific features regarding the death scene investigation and history, has variable interpretation since there are no features at autopsy that provide unequivocal evidence of asphyxiation in this setting.

Appendix 9

Membership of the Working Group

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